University of Dundee

DOCTOR OF EDUCATIONAL PSYCHOLOGY

Evidence-Based Teaching of Writing Practices
A Survey and Intervention at Elementary and High School Level

Green, Kelton Roy

Award date:
2017

EVIDENCE-BASED TEACHING OF WRITING PRACTICES: A SURVEY AND INTERVENTION AT ELEMENTARY AND HIGH SCHOOL LEVEL

KELTON ROY GREEN

DOCTORATE IN EDUCATIONAL PSYCHOLOGY

UNIVERSITY OF DUNDEE

FEBRUARY 2017

Table of Contents

List of Tables

List of Figures

Acknowledgements

I would like to thank my lead supervisor Professor Keith Topping for his untiring support, guidance and humour throughout this study. I have benefited especially from his clear explanations of statistics, academic prose and education in general.

I am also grateful to my additional supervisor, Doctor Elizabeth Lakin, who has been a welcome companion and advisor on this study. Her probing questions were helpful.

Naturally, I would like to extend my gratitude to the head teachers, teachers, students and pupils without whose participation this study would not have been possible.

Likewise, I would like to show appreciation to my colleague, Doctor Rachel Hayton, for her support in delivering the training.

I also wish to thank my marvellous children: Cosmas, Serafina and Anona. They will be pleased at being able to access the computer again!

Finally, I would like to express gratitude to my wife, Christina, for her steadfast emotional support and encouragement throughout this piece of work, and, indeed, everything.

Declaration

I, Kelton Roy Green, declare that I am the author of this thesis; that, unless otherwise stated, all references cited have been consulted by me; that the work of which the thesis is a record has been done by me, and that it has not been previously accepted for a higher degree.

Signed:

Kelton Roy Green

Abstract

Writing skills are important for social and civic participation, educational achievement and employment (European Commission, 2012). However, a third to a half of Scottish students did not attain required writing standards at upper elementary and lower high school grades in 2014 (Scottish Government, 2015). Similarly, many students do not obtain the required skills in the USA (Graham et al., 2014). This study aimed to improve the writing skills of mainstream upper elementary and lower high school students. It took place in a largely rural Local Authority in Southern Scotland which was mid-range on measures of deprivation. The literature was reviewed on effective writing interventions for school-aged mainstream students. The interventions with the largest impacts around the target grades were: CIRC (Durukan, 2011); Collaborative Dialogic Learning (Alfassi, 2009); CSRI (Torrance et al., 2007); Jigsaw (Sahin, 2011); individual IT access in lessons (Snyder, 1993); individual IT access at home and school (Lowther et al., 2003); peer assistance with revision (Boscoli et al.,2004); process and product goals (Schunk et al., 1993); SRSD (Brunstein et al., 2011); summarisation (Chang et al., 2002); visualisation/imagery instruction (Jampole et al., 1994).

An online survey of teachers' current practices and beliefs about the teaching of writing was administered. The response rate was 23% (N=345) of the 1490 Local Authority-employed teachers in the region. Notable findings were: the respondents' most frequently used practice was grammar instruction, an ineffective intervention (Graham et al., 2012; Graham et al., 2007). Many were using some evidence-based practices but not at optimum frequencies, and some were never using some of them. About 40% of respondents felt students had insufficient IT to support their writing and most would use IT more frequently if they had more up-to-date equipment, better internet access and extra training. Under half of elementary and high school respondents with English degrees felt Initial Teacher Education was adequate preparation to teach writing, while only 29% of high school respondents without English degrees felt adequately prepared to teach writing. Most viewed In Service Education more favourably but substantial numbers of respondents still felt inadequately prepared, particularly high school teachers without English degrees. All the high school respondents with English degrees and 91% of elementary respondents felt they were effective teachers of writing, but only 48% of high school respondents without English degrees felt they were effective at teaching writing.

An evidence-based intervention was developed, the six-week Write Away programme, which included writing strategy instruction, self-regulation strategies and peer revision. It shared many features with CSRI (Torrance et al., 2007) and SRSD (Harris et al., 2009). Distinctive differences included that it incorporated Boscolo et al.'s (2004) model of peer revision rather than the think alouds used in CSRI, pupils did not create their own self-regulatory statements, pupils did not collaborate during drafting, pupils needed not spend long planning provided they revised their work, the finished essays would be displayed and peer revision continued following the teaching phase.

This study was quasi-experimental and used both quantitative and qualitative methods. Participation was offered to large elementary schools which had two P6 (grade 5) pupil-only classes to allow for control and intervention classes. Two schools volunteered. Which pupils were in which condition depended on which teachers delivered the interventions. The control classes in both schools followed an on-going parallel intervention – the Big Writing programme (Wilson, 2012). Both schools were in towns and had similar pupil numbers (Eastfield=390, Westfield =361). The percentage entitled to Free School Meals in P4 to P7 at Eastfield was 11.8%, at Westfield it was 9.9%. The average age of the pupils was 10 years 7 months and numbers of male and female participants were broadly the same. Participation was also offered to all the region's high schools. Only one responded with the requisite conditions for participation. This school (roll= 544) was in the largest town in the region. The percentage entitled to Free School Meals was 13.8%. The average age of the S2 (grade 8) students was 13 years 6 months and there was a preponderance of female participants. The online survey had shown that intervening with non-English specialists might be beneficial. This was compared with delivery by, or in combination with, English teachers. Social Studies was chosen because of its writing demands. A control and three different intervention conditions were used: English teacher only; Social Studies teacher only; English teacher and Social Studies teacher. Which students were in which condition depended on which teachers delivered the interventions. This was determined by the school, either by self-selection or randomly.

Measures at both elementary and high school were the same. Teacher and student questionnaires were administered pre and post-test. Participant students were given written tasks pre and post-test. The length of the written tasks and plans were recorded.

The written tasks were assessed by the researcher using a rubric developed by the researcher. There was a post-test focus group of intervention teachers at each level. Implementation fidelity was assessed through teacher logs and lesson observations by the researcher. Descriptive statistics were produced for the pupil/student questionnaires, task and plan word lengths and the written task scores for different elements and overall writing quality. Responses to open questions were categorized into themes and tabulated where possible. The teachers' responses in the focus groups were collated into themes. Intervention and control writing scores pre and post-test and task and plan word length were analysed using Student's t-tests. Student questionnaire post-test responses from the different conditions were compared with a theoretical distribution of equal values using the Chi-square test. Effect sizes were calculated for mean pupil/student questionnaire responses, task and plan mean word lengths and written task scores. High school student questionnaire responses at post-test were analysed using the Mann-Whitney test because the students were unlikely to be normally distributed.

The Write Away programme led to large positive effect sizes for writing quality at P6 (ES: Eastfield= 2.89, N=25; Westfield = 2.70, N=19) and S2 (ES: Social Studies intervention = 1.37, N= 17; Social Studies and English intervention= 1.20, N=20; English intervention = 0.87, N=21). Effect sizes at P6 were double those of the most successful condition at S2. The Social Studies teacher and elementary intervention teachers felt the intervention improved writing quality and intended to do it again. However, the English specialists did not feel it made an impact and did not like it. The intervention successfully included peer revision of each other's texts (Boscolo et al., 2004) at both elementary and high school levels in a programme of strategy instruction and self-regulation which resulted in large writing quality improvements. The study showed that high school Non-English specialists could deliver interventions with large effects on writing quality. The Social Studies teacher delivered the intervention with the greatest fidelity, improved writing quality the most and reported an increase in understanding of the subject, especially for more able students. The survey showed a need for In Service and this intervention could be used at upper elementary level and with high school non-English specialists in the appropriate genres. This applies to the UK and USA. Implications for practice, policy and future research are further discussed. This was the first study to investigate writing strategy instruction and self-regulation as part of an evidence-based intervention in Scotland.

Chapter 1: Introduction

1.1 Background

Writing was probably first invented in the areas of modern day Syria and Turkey in around 3500 BC and soon expanded in the new urban centres of Mesopotamia due to a need for long distance communication to support trade and tax collection (Spar, 2004). Five and half thousand years later writing is ubiquitous and becoming ever more important in an increasingly digital age, yet it has received considerably less attention than reading (European Commission, 2012). Writing's value, particularly with regard to education, is self-evident. It is often used to assess learning and difficulties in this area can create barriers to educational achievement (European Commission, 2012). As information technology grows more pervasive, writing skills are becoming increasingly important for civic participation and employment (European Commission, 2012). Employers prize the ability to communicate clearly in writing and improved workers' literacy skills have been seen as crucial to increasing productivity (Scottish Government, 2011). Moreover, writing has social and spiritual purposes, as Graham and Harris (2013) put it: "We use writing to share information, tell stories, create imagined worlds, explore who we are, combat loneliness, and chronicle our experiences." (p.5).

Despite its importance, Scottish national data on writing standards of students from 2014 revealed that anything from a third to almost a half were not reaching the required standards at upper elementary and lower high school grades (Scottish Government, 2015). These results also suggested some students might be failing to progress with their writing when at high school, relative to their performance at elementary school. Furthermore, writing standards at P7 and S2 demonstrated notable reductions in comparison to the situation two years earlier (Scottish Government, 2013c). The subsequent Scottish Government's National Improvement Framework had improvement in literacy and numeracy attainment as one of its four priorities (Scottish Government, 2016); plainly, many students are not developing their writing skills as expected and there is a desire for this to be addressed. Graham et al. (2014) noted that many students do not obtain the writing skills required for achieving their academic, occupational and personal goals and concluded that more research into writing intervention is needed.

Writing intervention does not just benefit writing skills but has impacts on other domains of students' lives. This study therefore aimed to improve writing standards of mainstream upper elementary and lower high school students.

Graham and Perin (2007) used meta-analysis to identify 11 effective strategies for improving the writing of adolescents. The list included techniques to be taught to the students, such as how to plan, revise and edit, but also how to teach the students, for example, collaborative writing projects and assigning specific goals for the writing tasks. The approaches for teaching writing effectively deserve just as much consideration as what content to teach.

1.2 Research Questions

In this study, before considering how to intervene it was important to identify teachers' current practices and beliefs about the teaching of writing, in order to set the context and help determine which evidence-based practices might be worth exploring. This was reflected in the first research question:

What view do elementary and high school teachers in a Local Authority in Southern Scotland have of current practice in writing instruction and of a range of evidence-based approaches?

The teachers' views were obtained via an online survey (see Chapter 4). This necessitated conducting literature reviews of teacher writing surveys (see Chapter 2) and mainstream school-age evidence-based writing interventions (see Chapter 3). The results of the survey were collated and analysed (see Chapter 5) before being discussed in more detail (see Chapter 6).

The aim of the study was to investigate how to improve mainstream writing standards at upper elementary and lower high school level. The second research question was:

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 9 years 6 months to 10 years 6 months at the

start of the school year in August in Primary 6 (P6; broadly equivalent to 5th Grade) in two elementary schools in Southern Scotland?

It was decided to intervene at P6 as the pupils would not have as many distractions in school as the P7 pupils who would be in the process of transition to high school. P6 students would be the next closest in age to the high school students in the study, therefore allowing some comparisons to be made.

Similarly, intervention at S2 at high school was chosen as most of these students would have had over a year to settle into their new school. They would also not be taking national examinations. Furthermore, these were the same age as the students assessed by the Scottish Government in a national survey two years earlier who had notable numbers failing to achieve the required writing skills standards (Scottish Government, 2015). This led to the third research question:

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

Following consideration of the teacher survey findings and the literature review of effective mainstream writing interventions an evidence-based writing intervention was developed. This was essentially the same intervention used at both upper elementary and lower high school level (see Chapters 7 & 8). However, students at high school are taught by many more teachers than elementary pupils. Moreover, the teacher survey results (see Chapter 5) showed that less than half of non-English specialist high school teachers felt they were effective at teaching writing (see table 6.5, p.212). It was decided to use Social Studies for the non-English specialism in the high school intervention because it is an exemplar of subjects which are not English specialisms but include a great deal of writing. Consequently, this led to the final research question:

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students typically aged 12 years 6

months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

Pre and post-test measures of writing quality were taken along with pupil and teacher ratings of writing efficacy and enjoyment (see Chapter 9). Teacher ratings of writing practices were also collected. Implementation fidelity was assessed through teacher logs and lesson observation by the researcher. The teachers were invited to elementary and high school post-test focus groups. The results of the interventions at P6 and S2 were then collated and analysed. The findings of the study as a whole were summarised, the strengths and weaknesses of the study identified, links with the previous literature made and the implications for practice, policy and future research detailed (see Chapter 10). Finally, conclusions in relation to the research questions were stated (see Chapter 10).

Chapter 2: Literature Review for Teacher Survey

2.1 Methodology of Literature Search for Survey of Teacher Views

The purpose of this literature search was to identify relevant research which had been carried out using surveys of teachers on the topic of writing. This relates to the first research question:

What view do elementary and high school teachers in a Local Authority in Southern Scotland have of current practice in writing instruction and of a range of evidence-based approaches?

This would provide information about teacher views but also examples of how, and perhaps how not, to perform such surveys.

This search was primarily concerned with modern research and so the years 2003-2013 were selected. In addition, in order to access important older articles, a search for articles cited 10 or more times for the years 1983-2002 was made. One would expect important papers to have been cited frequently. Any papers older than that would be out of date or, if they were important, would have been superseded. An initial search of ERIC (Educational Research Information Center Database) using 'Teacher Opinion' AND 'Writing Instruction' yielded 3004 hits. A relatively small number of these articles were relevant and so the search terms were expanded through the use of synonyms. The final search term was: writing AND school AND teacher AND (opinion* OR view* OR perception* OR attitude* OR belief* OR orientation*) for years 2003-2013 and for articles with 10+ citations 1983-2002. For ERIC alone this was restricted to doctoral theses, reports –research and reports- evaluative.

Additional databases were accessed using the same search term, namely Social Sciences Citation Index, Scopus and the Virtual Library. A manual search of the articles in Journal of Writing Research was performed because of the apparent relevance of the title and its modernity. There was no search engine and so titles were examined for keywords. This gave rise to just one additional hit and consequently no further manual searches of journals were made.

This resulted in 1767 articles in total (see table 2.1). Around two thirds of the articles found in ERIC were duplicated in other databases.

Table 2.1 Numbers of Hits from the Database Search and Manual Search of a Journal using the Final Term

Database / *Journal*	**Number of Hits**
ERIC	808
Social Sciences Citation Index	649
Scopus	309
Virtual Library	0
Journal of Writing Research	1
Total	1767

The articles were then filtered using the following exclusion criteria:

- Studies about teacher views of a specific programme or intervention
- Studies about student views only
- Studies regarding students with English as an Additional Language (given geographical location of this study)
- Studies regarding only students with giftedness or special needs or specific socio-economic status
- Studies in which writing was used only as a tool for reflection
- Studies only in small part related to writing

Inclusion criteria were then applied:

- Studies of grades 1-10 or the equivalent
- Studies that contained empirical data
- Studies about the views of teachers of mainstream students
- Studies about the writing of the students

This resulted in 10 studies being identified as relevant. These are discussed below.

2.2 Teacher Views of Writing

2.2.1 Overview

The importance with which teachers view writing must impact upon their practice to some extent, dependent upon the freedom they enjoy to determine what and how they teach. In the same way, asking teachers about their practice can be an informative way of discovering how students are being educated, with the obvious proviso that some may not be fully aware of their practice while some may report what they believe people want to hear. Such information is still valuable. All of the studies below except one were of English-speaking students (see table 2.2, p.16).

Of the ten articles selected two were rejected upon closer inspection. ACT's National Curriculum Survey in the USA (2009) had a low response rate and very little to say in terms of writing. The claims of the authors did not reflect the paucity of their data. They could also be accused of a degree of bias in that they were advocating a product. Troia & Maddox (2004) compared the views of general and remedial teachers a year apart in different schools. The numbers were very small, not all the general teachers taught English and they did not all teach the same age ranges. In addition, the rating scales used had a wide range of scores placed within different emphases or themes.

2.2.2 Feelings and Confidence of the Teachers

A survey of high school teachers by Kiuhara, Graham and Hawken (2009) showed that 98% agreed to some extent that writing was an essential skill for after high school, with 84% strongly agreeing yet barely a quarter felt prepared to teach writing after college (see table 2.2, p.16). This rose to 56% when In-Service training was taken into account but left significant numbers feeling ill-equipped. Moreover, only 39% of Language Arts teachers felt adequately prepared by college, rising to 77% following In-Service training. This low confidence was evident when kindergarten to grade 6 teachers were asked their views of themselves as writers. The average was 6.73 on a scale of 1-10 (1= 'Most Negative', 10= 'Most Positive') (Simmerman, Harward, Pierce, Peterson, Morrison, Korth, Billen, Shumway (2012). The teachers taught a broad age range and it would have been interesting to know if there were any trends or differences. Graham,

Harris, Mason, Fink-Chorzempa, Moran, Saddler (2008) discovered that grade 1-3 teachers *liked* to teach handwriting. This could reflect their confidence with a less-demanding aspect of writing or the age of their charges. A 6 point Likert-type scale might have forced some respondents to express a preference rather than a neutral stance.

This suggested a need for more In-service training, at least in the United States. Scott and Sutton's (2009) imaginative use of repeated questionnaires with training attendees showed a significant improvement in emotions regarding writing as the course progressed. However, at four months' post the changes were no longer significant. The authors thematically analysed questionnaire responses on emotions but had no baseline. Given what happened with the quantitative data one can assume changes were temporary. That is, the majority still had mixed emotions, a significant number were very positive and some had negative views. Curiously, although teachers showed a significant increase in modelling writing to students, in line with good practice, there was a concurrent reduction in publication of students' work, which is counter to a process writing approach. The authors suggested this was because students had more discussions, but this should not have been at the expense of a key feature of process writing.

Papoulia-Tzelepi and Spinthourakis's (2000) Greek study captured the highly prescriptive nature of the curriculum there at that time. The response rate was not given and the numbers were small, particularly for the thematic analysis. A direct question on their feelings about teaching writing would have been helpful. Nevertheless, since the curriculum was seen as responsible to some extent for student weaknesses in writing by 87% of the respondents, with a third seeing it as highly responsible, it would be reasonable to conclude that they felt disempowered (see table 2.2, p.16). This might explain why an astonishing 25% of the teachers 'seldom/hardly ever' intervened during children's writing. This underlines the importance of teachers feeling confident enough to teach writing.

2.2.3 Beliefs about Writing Instruction

A Canadian study by Peterson and McClay (2007) had a small sample and included a wide range of grades taught, although the response was good (see table 2.2, p.16). They

identified themes. These could have been used to construct further, larger scale quantitative sampling. The most common goal was for students to enjoy writing and feel confident as writers, while nearly a third mentioned clear communication. A notable minority mentioned good exam performance. Since it was not known whether teachers who did not mention these aspects concurred it is difficult to draw extensive conclusions. The authors were interested in rural versus urban differences yet alighted upon differences based on class, or socio-economic status (SES). Teachers in urban areas reported populations replete with well-educated professional parents while those in rural areas served generally working class communities. The former perceived writing to be valued outside school, as it was a feature of people's jobs, while the latter did not. The implication being it was harder to teach children from communities where writing is not valued. The exceptions were teachers in rural Newfoundland and Labrador, where writing was valued as a means of recording traditions and histories. The authors opined that some teachers were not valuing the types of writing used in working class environments and were making erroneous judgements upon the value of writing. Yet there was nothing in the study to support or refute this claim. The views of the parents were not accessed directly. Moreover, teachers shared the same goals and had similar practices, in the terms of the relatively superficial questions asked, regardless of location.

Differences in instruction associated with the SES of the students were considered by McCarthey and Mkhize (2013). They interviewed grade 3 and 4 teachers from schools in the USA which served populations with high or low average incomes. The study only included eight schools with a small sample and so some caution in extrapolating the findings is required but they did demonstrate differences in writing instruction related to overall SES along with some similarities (see table 2.2, p.16). This was in contrast to Peterson et al. (2007) but probably reflects the more detailed questioning. All teachers tended to teach structure, that is, ways of organising texts, such as the 'five paragraph essay' and graphic organisers were widely used. Teachers in high income schools focussed significantly more on developing sophisticated aspects of writing, such as rhetorical style and voice. They concentrated on student's ideas. They were more likely, but not statistically significantly so, to highlight reading writing connections, that is, to use examples of good quality literature. Low income schools focussed significantly more on the *lower level* skills of writing, namely sentence construction,

mechanics and grammar. This might have reflected in part the children's skills but it demonstrated a poverty of aspiration and removed a powerful motivator. By not encouraging higher level skills development it was likely the gap in attainment between the two groups was maintained.

An unimpressive response rate was seen with grade 4 teachers in Brindley and Schneider (2002) (see table 2.2, p.16). They also had some evident biases in their thematic analyses and conclusions and used terms without sufficient definition. Most teachers were clear about the importance of modelling writing and talking being part of writing. The majority saw 'playing' as part of writing, though what that meant exactly was not clear. A notable minority saw drawing as a somewhat unnecessary aspect of writing; again it was not defined. It could mean drawing a picture as part of the pre-writing process to aid imagery or drawing one afterwards. It is surprising the figure was not higher since drawing is not a *necessary* feature of writing. Of more interest were themes identified in a question about the teacher role, although the authors combined 'role-models' with 'encouragers' while having a separate theme of 'motivate'. Surely 'motivate' and 'encourage' have more in common than the first two terms? The percentages suggested that there was no clear idea of the role, since the conflated term accounted for only 36% of responses. Furthermore, the number of responses did not equate to the number of teachers who expressed that view in contrast with another view since all themes were simply added up; the total count for the themes on that question was 219 when there were 125 respondents. It was difficult to conclude very much other than there was a wide range of views on writing instruction and the role of the teacher. This may not reflect the wider teacher population.

2.2.4 Practices Involving Drafting, Revising /Writing as a Process

Simmerman et al. (2012) investigated elementary school teachers' views on process writing, a recursive framework with the stages they defined as: '*prewriting, drafting, revising, editing* and *publishing'* (p.293). They inquired to what extent teachers valued and used different features of writing instruction. Mysteriously, they did not inquire about these five features of process writing in a list of some 55 items, preferring to use the term 'writing as a process'. The sample size and response rate were respectable, although more information at the different grade levels would have been informative

(see table 2.2, p.16). The term 'Use' would have had more meaning if it related to frequency more directly. The text erroneously reported the item with the highest value score (p.296), which leaves one wondering if other mistakes were made. The authors attempted to combine the items into categories to calculate means, but often included contradictory ideas, such as 'student independent writing' and 'collaborative writing'. Notably, everything in the list was used to some extent, suggesting that the range of items was too narrow. Nevertheless, relative differences were illuminated. 'Writing as a process' was reported as highly valued and used.

In contrast, Brindley et al. (2002) found process writing referred to in only 10.4% of comments on writing instruction (see table 2.2, p.16). Teaching the writing process was identified as a theme for the teacher's role for 17.6% of responses. The response rate was low, but even so, taken together these results suggested few were using the evidence-based approach. It may have reflected the emphasis on high stakes exam preparation which was referred to continually; certainly elements tested in the exam were the most highly represented. However, these narrative and expository prompts had been arbitrarily combined by the authors, presumably as a reflection of their bias. Alternatively, the low score may have reflected some changes in practice, since the study was ten years earlier than Simmerman et al. (2012). Scott and Sutton (2009) did examine the process writing elements of pre-writing, drafting, revising and publishing (not editing although this could be seen as part of revising) in frequency terms prior to training. On average, teachers said they were already using these from more than half to half the time. To the dismay of the authors, following training prewriting, revising and publishing all reduced, the latter significantly so but they still remained common practices and the amount of time spent on drafting increased.

McCarthey et al. (2013), mentioned above, did not set out to exam process writing as such but they found teachers in high income schools expected more than one draft be made, implying a process approach to writing was employed but this was not the case in low income schools.

2.2.5 Grammar and Mechanics

Formal grammar instruction is associated with a negative impact on attainment in meta-analyses (see Graham, McKeown, Kiuhara & Harris (2012), Rogers and Graham (2008)) although teaching grammar in context is significantly better than formal instruction and may have a positive impact. This could explain why in high income elementary schools grammar was only taught in this way (McCarthey et al., 2013). By contrast, low income schools focussed significantly more on grammar and the mechanics (spelling, handwriting, punctuation). Similarly, Papoulia-Tzelepi et al. (2000) found that Greek teachers focussed more on spelling and grammar than content when evaluating work. Although the mechanics are necessary, it is the higher level skills which determine writing quality. Simmerman et al.'s (2012) survey of elementary teachers showed grammar instruction averagely ranked among the items given and quite highly valued and used (4.34, 4.08 average respectively, where 1= low, 5 = high) (see table 2.2, p.16). This is unexpected, given the popularity of the process writing approach in this sample. Brindley et al.'s (2002) grade 4 teachers who mentioned grammar to an open question were definitely in the minority but the design means it may have overlooked teachers who used this practice but did not bring it to mind. Scott et al. (2009) combined grammar and mechanics making interpretation more difficult, although it can be noted that this reduced somewhat following training in a writing process approach.

2.2.6 Student Motivation, Confidence and Feedback

Telephone interviews of grade 4 and 8 teachers by Peterson et al. (2007) found 40.7% wanted students to enjoy writing and feel confident as writers (see table 2.2, p16). This was the most popular theme. Brindley et al. (2002) combined 'role-model' with 'encouragers' to give the most popular theme while 'motivate' accounted for a further 21.6% of comments (see table 2.2, p.16). As mentioned above, the combination obscured rather than illuminated. The only study to seek a teacher estimate of student motivation to write, Papoulia-Tzelepi et al. (2000), found two-thirds felt it was at a 'low' level. This was not directly from the students but is likely to be pretty accurate. Presumably the prescriptive curriculum with no clear purpose, a focus on spelling and grammar rather than content and the message that the work was not valued, as 25% of

teachers would never display it, had important roles in this (see table 2.2, p.16). Simmerman et al. (2012) gave participants an exhaustive list of items relating to writing to be rated yet did not include anything on motivation or self-confidence.

Feedback can enhance motivation and confidence/self-efficacy, particularly if it is during the writing process, as it kindles the belief that progress is being made (Schunk, 1994). Despite this, it was not explored in great detail in any of these studies. Brindley et al. (2002) found just 22.4% of the 4th grade teachers they sampled saw providing feedback/correcting work as part of their role. This does not necessarily mean they did not do it but indicated how it was. Simmerman et al. (2012) inquired about elementary teachers' ratings of value and usage of assessment for content and mechanics, which were both quite high (value 4.17, use 4.09; 4.15, 4.06; average respectively, where 1= low, 5 = high) although averagely ranked among the items given. How this assessment feedback was given to students was not explored.

2.2.7 Collaborative and Cooperative Approaches

Scant reference was made to collaborative and cooperative approaches. Simmerman et al. (2012) found collaborative writing to be middle ranking but behind independent writing and modelled writing in value and usage (see table 2.2, p.16). This did not indicate frequency in more concrete terms. Graham et al. (2008) noted only 5% of grade 1-3 teachers used small groups for handwriting. This may or may not refer to collaboration. Regardless, it was evident that very little collaborative work was being done around handwriting.

2.2.8 Use of Information Technology

Elementary teachers reported valuing and using technology-based genres (Blogs and emails) and reference tools in the bottom nine out of 55 items (Simmerman et al., 2012) (see table 2.2, p.16). How information technology (IT) might support writing in other ways, such as through facilitating revision or as a means of publishing, was not investigated. This was surprising given the prevalence of IT in the modern era. Peterson et al. (2007) explored IT use with a small sample of grade 4 to 8 teachers. An astonishing 22.2% reported little or no use of IT (see table 2.2, p.16). There were no

differences between urban and rural areas. It was disappointing to find the most popular use of IT was to retype handwritten compositions (42.5% of respondents) despite one of the major benefits of IT being ease of editing and revision. Less than a tenth used IT in that way. Around a quarter of the teachers had students produce Power Point presentations or use clip art, although these two areas should not have been combined as the former is far more sophisticated than the latter. Furthermore, a Likert-type scale would have allowed the frequency of use to be reported. There may have been differences in IT use dependent upon the age of the teachers or the students taught but this was not explored.

2.2.9 Frequency of Writing

'Practice makes perfect,' says the old adage and both intuition and meta-analysis (Graham et al., 2012) would agree on the importance of sufficient opportunities to learn skills. Brindley et al. (2002) allowed the various lengths of time spent writing daily to be reported, with the median being one to one and a half hours (see table 2.2, p.16). This assumed the grade 4 teachers would use the same amount each day. Furthermore, the ceiling was set at two hours or more when there may have been variation beyond this. 'Writing' was not defined nor whether it was the principal purpose of the activity in question. Effects on writing quality were not explored. Simmerman et al. (2012) surveyed teachers of a wide range of ages and one would expect large differences as a consequence but the reported data did not allow this to be examined. Daily writing was highly valued and used, although again there are problems of definitions of 'writing' and the amount of time spent each day or week was not investigated. Graham et al. (2008) examined handwriting frequency in lower grades. This has the benefit of being clear in terms of the activity but the length of the sessions was not examined. The majority taught handwriting daily or several times weekly. This seemed very frequent and might reflect the importance placed upon this aspect of writing at this educational stage. It would be interesting to know the amounts of time spent on other writing types. Papoulia-Tzelepi et al. (2000) noted the Greek curriculum at that time demanded 10-15 minutes be spent on creative, expressive writing several times weekly. This raised an important point about the freedom teachers may or may not have to determine the amount of time spent on writing regardless of the degree to which they value it.

2.3.1 Summary

Teachers appeared to be ill-prepared to teach writing, at least in the United States, and valued In-Service training in the area, although the effects of this were not always as planned nor sustained. Important differences in instruction were found between schools of relatively high and low incomes, with the latter emphasising aspects relating to quality rather than mechanics. Grammar instruction remained popular at elementary school, despite its negative impact. Practices involving writing as a process were being valued and used with some degree of regularity. Motivation of students to write was seen as an important goal but the strategies used to this end were not investigated. IT changes rapidly and so one must be wary when looking at older studies. Nevertheless, it seemed that considerable numbers of teachers still employed IT as a way of producing a neat copy rather than exploiting its potential to enhance editing and revision. The effects of frequency of writing tasks were inconclusive outside of Greece, where times were stipulated.

The relatively small number of studies demonstrated that teachers' views of writing have been infrequently sought. They covered a wide range of themes, from handwriting to changes in emotions following In-service writing training. Samples sizes were frequently small and open questions were generally overused, making interpretation less certain. Potential differences in beliefs and practices for teachers at different grades were not investigated, despite it being an important question. Moreover, the use of collaborative and cooperative approaches, feedback, ways of enhancing self-efficacy and strategy instruction were given little or no attention. A survey of teacher views locally would be recent and relevant and would contribute to identifying priority areas for intervention.

Table 2.2 List of Teacher Views' Studies with Features and Effect Sizes, Statistical Significance, Percentages where Appropriate.

Study	**Details**	**Age Range**	**Sample Size (Response Rate)**	**Practice** **Statistical Significance / Effect Sizes, Mean Scores, Percentages Where Relevant**	**Attitudes / Beliefs** **Statistical Significance / Effect Sizes, Percentages Where Relevant**
Brindley & Schneider (2002)	Survey Of Teachers Beliefs About Writing Instruction And Development And Within-Case Analysis	G4	Survey N=125 (24.8%) Within Case Analysis N=9	*Time Children Spend Writing Daily:* Less Than ½ hr 1%; ½ -1hr 29%; 1-1 ½ hr 39%; 1 ½ -2 hr 20%; 2hrs + 11% *Type Of Writing (Themes From Open Question):* Expository And Narrative 91.2%; Journals/Logs 51.2%; Creative Writing/Poetry/Letters 37.6 %; Workbook 25.6%; Across Curriculum 21.6%; Grammar Exercises 11.2%; Free Choice 4.8% Creative Writing After State Exam 4% *Type Of Writing Instruction (Themes):* Narrative/Expository Prompts 40.8%; Individual/Small Group Instruction 23.2 %; Whole Group Instruction 23.2 %; Modelling 20%; Mini-Lessons On Skills/Grammar 17.6%; Process Writing Strategies 10.4%; Workbook Pages 3.2%; Free Writing 2.4%; Reading Literature 0.8%	Beliefs About Instruction % Completely Necessary / Somewhat Necessary / Neutral / Somewhat Unnecessary / Completely Unnecessary Teachers Need To Write 64 / 29 / 2 / 4 / 1 Drawing Part Of Writing 17 / 51 / 19 / 13 / 0 Talking Part Of Writing 71 / 24 / 3 / 0 / 2 Playing Part Of Writing 21 / 41 / 26 / 8 / 4 Teacher Role In Writing *(Themes):* Role Models/Encouragers 36%; Guide Students' Writing 32.8%; Teach Writing Skills 25.6%; Correct Writing/Give Feedback 22.4%; Motivate 21.6%; Teach Narrative/Expository Formats 19.2%; Teach Writing Process 17.6%

Study	**Details**	**Age Ranges Taught**	**Sample Size (Response Rate)**	**Practice** **Statistical Significance / Effect Sizes, Mean Scores, Percentages Where Relevant**	**Attitudes / Beliefs** **Statistical Significance / Effect Sizes, Percentages Where Relevant**
Graham, Harris, Mason, Fink-Chorzempa, Moran, Saddler (2008)	Survey Of Primary Teachers' Instructional Practices In Handwriting	G1-3	N=169 (68%)	*Most Common Handwriting Difficulties Reported By Teachers* Neatness 76% (Of Teachers Reported); Spacing Between Words 66%; Letter Size 59%; Letter Formation 57%; Letter Alignment 54%; Reversals 52%; Spacing Within Words 46%; Handwriting Grip 41%; Uniformity Of Slant 36%; Writing Too Fast 31%; Writing Too Slow 25%; Posture 22%; Paper Placement 17%; Prints Too Lightly 8%; Prints Too Darkly 7%. *Handwriting Practices* *Frequency:* 90% Taught Handwriting; Taught Daily 56%, Several Times Per Week 34%, Weekly 10%. *Method:* Whole Class Teaching 93%; Small Groups 5%; Use Commercial Programme 63%.	*Teacher Attitude Towards Handwriting* *'I Like To Teach Handwriting' Average Score=4.01, Where 0=Disagree Strongly And 5=Agree Strongly.*
Kiuhara, Graham, Hawken (2009)	Survey Of Language Arts (LA), Social Studies (SS) And Science Teachers (SC) USA	G9-12	N= 361 (51%)	Total Number Of Evidence Based Writing Strategies Used (From List Of 16): Language Teachers >Science Teachers (ES=1.88); Language Teachers >Social Studies Teachers (ES=1.10); Social Studies Teachers > Science Teachers (ES=.89) Total Number of Writing Adaptations Used (From List Of 16): Language Teachers >Science Teachers (ES=2.06); Language Teachers >Social Studies Teachers (ES=1.28); Social Studies Teachers > Science Teachers (ES=.81)	*Importance Of Writing And Perceptions Of Students' Competence* Variable — % agree to some extent (Slightly To Strongly) Writing Is An Essential Skill For After High School — 98% Students Taught Writing Skills In High School -Needed To Be Successful In College — 78% -Needed To Be Successful In Workplace — 77% Students Have Writing Skills They Need To Be Successful In My Class — 51% *Teacher Preparation To Teach Writing* Subject Discipline Differences: Formal Preparation During College (Pre-service) (Adequate Or Better = 28%); Formal Preparation After College (In-Service) (Adequate Or Better = 56%); (All p<.0006)

Study	**Details**	**Age Ranges Taught**	**Sample Size (Response Rate)**	**Practice** **Statistical Significance / Effect Sizes, Mean Scores, Percentages Where Relevant**	**Attitudes / Beliefs** **Statistical Significance / Effect Sizes, Percentages Where Relevant**
McCarthey & Mkhize (2013)	Semi-Structured Interviews Of Teachers From Low and High Income Schools On Orientations Towards Writing Instruction In USA	G3-4	N=29 Response = 'Almost All'	*Overall:* 'Majority' Teach Structure; 'Many' Use Specific Formats, Graphic Organisers. *High Income School Teachers:* Only Focus On Grammar In Context Of Student's Writing; Expectation Of More Than One Draft; Focused On: High Income / Low Income / Significance Developing Rhetorical Style 86 % / 42 % / p=.02 Fostering Voice 60 % / 14 % / p=.02 Highlighting Reading Writing Connections 80% / 50% / p=.13 NS Grammar & Mechanics 26% / 71% / p=.03 Sentence Construction (% not given, lower) / 79% / p<.02	

Study	**Details**	**Age Ranges Taught**	**Sample Size (Response Rate)**	**Practice** **Statistical Significance / Effect Sizes, Mean Scores, Percentages Where Relevant**	**Attitudes / Beliefs** **Statistical Significance / Effect Sizes, Percentages Where Relevant**
Papoulia-Tzelepi & Spinthourakis (2000)	Questionnaire To Teachers In Selected Schools *In Greece*	G4 & G6	N= 41 G4= 24 G6= 17 Response Rate Not Given	*Time For Writing:* 10-15 Minutes Is Not Adequate 50%; Time Should Be Allocated To The Specific Needs 47% *Perceived Usefulness Of Discussion Before Writing*: High 65%, Medium 35%, Low 1% *Students' Motivation For Writing:* High 26%, Low 68% *Teachers' Intervention For Change During Students' Writing:* Sometimes 70%, Seldom 25% *Displaying Students' Writing:* Always 12%, Sometimes 53%, Never 25%	*Evaluation Of Text Book In Promoting Good Writing:* High Quality 10%; Medium Quality 15%; Low Quality 75% *Evaluation Of Curriculum's Responsibility For Students' Weakness In Writing:* Highly Responsible 37%, Mildly Responsible 50%, Not Responsible 13% *Perceived Usefulness In Evaluation* % Very Useful Rather Useful Minimally Useful Focus On Spelling And Grammar 55 42 2 Focus On Content 34 53 13
Peterson & McClay (2007)	Teacher Telephone Interviews On Goals Of Writing And Use Of Digital Technology	G4-8	N=54 (75%)	*Computer/Media Use (Themes):* % Retyping Handwritten Compositions/Should Use Pen First 42.5 Students Use Power Point & ClipArt 25.9 Little/No Use Of Computers In Class 22.2 Use Video/Tape Recorders In Class and/or Created Slide Shows/ Scrap Books/Photo Essays 14.8 Used For Composition In Class 9.3 Used Email In Class 7.4	*Teacher Goals Of Writing Instruction (Themes):* % Enjoy Writing & Feel Confident As Writers 40.7 Write For Variety Of Purposes Using Variety Of Genres 38.8 Use Writing Conventions Correctly 37.0 Communicate Clearly/Effectively 31.5 See Writing As Life Skill & Become Writers For Life 18.5 Organise Writing So Others Can Follow Ideas 16.6 Show Creativity/Individuality/Independent Thinking In Writing 12.9 Meet Provincial Expectations/Do Well In Exams 9.3

Study	**Details**	**Age Ranges Taught**	**Sample Size (Response Rate)**	**Practice** **Statistical Significance / Effect Sizes, Mean Scores, Percentages Where Relevant**	**Attitudes / Beliefs** **Statistical Significance / Effect Sizes, Percentages Where Relevant**
Scott & Sutton (2009)	Repeated Questionnaire of Teachers Having Professional Development In The Writing Process Plus Interviews At Post	Elementary	N=44 Questionnaire Response Rate =88% Interview N= 14	*Writing Process Questionnaire* (Scale 1-5, 1= Almost Always, 2= More Than Half The Time, 3=About Half The Time, 4=Less Than Half The Time, 5= Never Or Hardly Ever) Pre Post Significant Brainstorming/Prewrites 2.44 2.94 Rough Drafts 2.79 2.59 Teacher's Writing As Model 2.90 2.33 p=.03 Revise Own Work 2.74 2.91 Grammar, Spelling, Mechanics 2.24 2.59 Publish Final Work 3.03 3.47 p=.005	*Teacher Emotions:* Linear Trend Between Pre-questionnaire And The 7 Repeated Questionnaires (More Positive) ($p<.05$) Pre-questionnaire and Post-questionnaire At 4 Months ($p=.08$) *Frequency Of Comments At Post* % Positive Negative Both Other Feelings About Teaching Writing 31.7 4.8 53.6 9.7 About Writing As A Participant In The Workshops 20.4 20.4 56.8 2.2

Study	**Details**	**Age Ranges Taught**	**Sample Size (Response Rate)**	**Practice** **Statistical Significance / Effect Sizes, Mean Scores, Percentages Where Relevant**	**Attitudes / Beliefs** **Statistical Significance / Effect Sizes, Percentages Where Relevant**
Simmerman, Harward, Pierce, Peterson, Morrison, Korth, Billen & Shumway (2012)	Survey Of Teacher Views Of Writing Instruction Aspects And Themselves As Writers	K-G6	N= 112 (63%)	*Valued* *Top 9:* Student Independent Writing (4.76), Instruction In Response To Student Needs (4.68), Daily Writing (4.64), Individual (Work) (4.60), Student Sharing (4.59), Writing As Process (4.58), Use A Classroom Writing Centre (4.56), Increasing Fluency (4.55), Modelled Writing (4.54). *Bottom 9*: Commercial Writing Programme (2.74), Dictation (2.74), Technology-Based Genres (3.00), Guided Practice Worksheets (3.03), Teacher Writing As Students Write (3.36), Technology-Based Reference Tools (3.65), Peer Assessment For Content (3.66), Persuasive Writing (3.66), Personal Dictionaries (3.68). *Used* *Top 9:*Student Independent Writing (4.59), Writing As Process (4.41), Daily Writing (4.35), Instruction In Response To Student Needs (4.33), Whole Group Instruction (4.32), Explicit Instruction (Mini-Lessons) (4.30), Classroom Writing Centre (4.30), Language Conventions Usage And Punctuation (4.30), Student Sharing(4.29) *Bottom 9:* Commercial Writing Programme (2.10), Technology-Based Genres (2.42), Dictation (2.47), Teacher Writing As Students Write (2.83), Technology-Based Reference Tools (2.84), Guided Practice Worksheets (2.91), Persuasive Writing (3.22), Personal Dictionaries (3.26), Peer Assessment For Content (3.33). (55 Items, Scale 1-5, 1= 'Least', 5= 'Most')	Teacher View Of Self As Writer: Average =6.73 (Scale 1-10; 1= 'Most Negative', 10= 'Most Positive')

Chapter 3: Literature Review for Writing Interventions

This literature review investigates effective writing interventions for mainstream school aged students. How the literature search for writing interventions was conducted is described. This is followed by reviews of meta-analyses pertinent to this study. Next, the literature around the themes of explicit instruction, self-regulation and self-efficacy, collaborative and cooperative learning approaches and information technology is discussed and critiqued. These are then integrated before implications for the current study are considered.

3.1 Methodology of Literature Search for Writing Interventions

The purpose of this literature search was to identify relevant research into the effectiveness of mainstream writing interventions for school age children. This was in relation to three of the research questions:

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 9 years 6 months to 10 years 6 months at the start of the school year in August in Primary 6 (P6; broadly equivalent to 5th Grade) in two elementary schools in Southern Scotland?

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

As this search was primarily concerned with modern research the years 2003-2013 were selected. In addition, in order to access important older articles, a search for papers cited 10 or more times for the years 1983-2002 was made. One would expect important articles to have been cited frequently. Any papers older than that would be out of date

or, if they were important, would have been superseded. An initial search of ERIC (Educational Research Information Center Database) using the following key terms: 'Writing' AND 'intervention' OR 'program*' AND 'effect*' produced 140561 hits. The search terms were refined to: Writing AND School AND (Intervent* OR Program* OR Programme* OR Strat*) AND Effect* for years 2003-2013 and for articles with 10+ citations 1983-2002. For Eric alone this was restricted to doctoral theses, research reports and evaluative reports.

Additional databases were accessed using the same search term, namely Social Sciences Citation Index, Scopus and the Virtual Library. A manual search of the articles in Journal of Writing Research was performed because of the apparent relevance of the title and its modernity. There was no search engine and so titles were examined for keywords. This gave rise to just one additional hit and consequently no further manual searches of journals were made.

This resulted in 3621 articles in total (see table 3.1). Around half of the articles found in ERIC were duplicated in other databases.

Table 3.1: Numbers of Hits from the Database Search and Manual Search of a Journal using the Final Term

Database / *Journal*	**Number of Hits**
ERIC	1391
Social Sciences Citation Index	1208
Scopus	1021
Virtual Library	0
Journal of Writing Research	1
Total	3621

The identified articles from all sources were then filtered using the following exclusion criteria:

- Studies regarding students with English as an Additional Language (given geographical location of this study)
- Studies specifically about a language other than English
- Articles not written in English

- Studies regarding only students with giftedness or special needs or specific socio-economic status
- Studies in which writing was used only as a tool for reflection
- Studies only in small part related to writing

Inclusion criteria were then applied:

- Studies of grades 1-10 or the equivalent
- Studies that contained empirical data
- Studies of students in mainstream education

This resulted in 68 articles. A couple of these papers had data from earlier, included articles supplemented by new data. To make this large selection of articles less unwieldy, the titles and abstracts were read in order to create around five to ten themes. Some of the themes were virtually self-evident and some more subtle. The initial eight themes were: collaborative approaches; explicit instruction; handwriting; information technology; meta-analyses; miscellaneous; self-regulation and self-efficacy; spelling. Given the wide range a need for a tighter focus was evident. Since the focus of this study was upon raising writing quality further exclusion criteria were applied:

- Studies solely about spelling
- Studies solely about handwriting
- Studies not primarily about raising writing quality
- Studies primarily about raising reading standards

Consequently, 34 articles were used in the literature review for writing interventions. These were organised into five themes: collaborative and cooperative learning approaches; explicit instruction; information technology; meta-analyses; self-regulation and self-efficacy.

3.2 Meta-Analyses Articles

3.2.1 Effect Size Descriptive Classification

According to Cohen and Manion (1997), meta-analyses provide a way of combining the results from a range of studies by calculating an effect size. An effect size is a measure of the *size of the difference in outcomes* between the treatment and the control groups. This reduces the effects of false positive results but there is a risk that errors can be multiplied if the studies are not of good quality. Cohen's descriptors are often referred to when comparing effect sizes, where $d = 0.20$ is small, $d = 0.5$ is medium and $d = 0.8$ is large. The additional descriptor of very small was added by the author for effects < 0.20 but > 0.09. Hattie (2009) suggests that since the average effect size of a teacher is $d = 0.2 - 0.4$ academic growth per annum, then a guideline should be that interventions ought to equal or exceed $d = 0.4$. An improvement in a child's academic achievement by two to three years in a year would equate to $d = 1.0$. He goes on to concede that the cost of an intervention needs to be included when considering whether to employ it. Some interventions may have relatively small effects but be inexpensive and so worth doing, while the converse may also be true.

3.2.2 Graham, McKeown, Kiuhara & Harris (2012)

3.2.2.1 Overview

Four meta-analyses met the criteria for inclusion in this literature review. All of these listed Graham as an author. In the first of these to be examined, Graham, McKeown, Kiuhara & Harris (2012) analysed writing instruction for elementary grade students (grades 1- 5 or 6). They ruled out treatments with three or fewer studies and this led to14 treatments being considered. They acknowledged that the overall quality of the studies was not what they should be. Studies of sentence combining, inquiry, the study of models and procedural facilitation, were excluded. The first three were both found to be effective in improving writing in the meta-analyses of Graham and Perin (2007) and Hillocks (1986), which were both mentioned in this paper but this contradiction was not explored.

3.2.2.2 Strategy Instruction

Strategy Instruction involves teaching students strategies for planning and/or drafting and/or revising in different genres. Given the wide range of combinations of strategies employed it means instruction in a strategy rather than specific ones. It had a weighted average ES of 1.02 (range 0.25 – 1.89, n=20) from a large number of studies, which is nonetheless remarkable (Graham et al., 2012). They gave it a quality of studies score of 70%. Variance in the scores was high and so it was decided to separate out self-regulated strategy development (SRSD) from the rest. Non-SRSD strategy instruction had a reduced but still significant weighted average ES of 0.59 (range 0.31 – 1.72, n=6).

3.2.2.3 Adding Self- Regulation to Strategy Instruction

This had been examined in six studies where the control was strategy instruction on its own and the controls showed a weighted average ES of 0.50 (range -0.02 – 1.09, n=6) (Graham et al., 2012).

3.2.2.4 Self-Regulated Strategy Development

The most effective writing instruction technique found in this meta-analysis was Self-Regulated Strategy Development (SRSD), which includes self-regulation. It garnered a weighted average ES of 1.17 (range 0.25 – 3.19, n=14) (Graham et al., 2012). Graham presumably would be sensitive to the fact that he developed SRSD and was named as an author on seven of the 14 studies used in the meta-analysis. Interestingly, the average ES for studies not carried out by Graham was actually higher.

3.2.2.5 Text Structure Instruction

Instruction in text structure led to a weighted average ES of 0.59 (range 0.13 – 0.94, n=9) (Graham et al., 2012). Included were studies examining persuasive text, multiple text and academic text structures. Only one study examined compare and contrast structure and this had a very small positive impact (ES= 0.13). Teaching story structure generally fared well (ES range 0.17 – 0.94, n= 5) except for one study where the control was dictionary skills and word study instruction (Fitzgerald & Teasley, 1986). Perhaps

the 19 struggling writer participants needed the vocabulary more. One can conclude that text structure instruction impacts positively upon children's writing.

3.2.2.6 Creativity/Imagery Instruction

Instruction in creativity/imagery led to a weighted average ES of 0.70 (range 0.23 – 0.84, n=4) (Graham et al., 2012). This was not explicitly linked to writing yet had a significant impact. Studies included high ability and struggling writers.

3.2.2.7 Teaching Transcription Skills

The teaching of transcription skills theme included eight studies developing handwriting, spelling and/or keyboarding skills and led to an average ES of 0.55. There was substantial variability in the ESs (-0.13 to 2.40) but also considerable variability in the foci of the treatments (Graham et al., 2012). The studies only included students from grades one to three and all but two were for struggling writers. The two studies with students with the full range of ability produced a large positive effect at grade 1 (ES=1.0, Jones, 2004, cited in Graham et al., 2012) but only a small effect size with older, grade 3 students (ES=0.38, Shorter, 2001, cited in Graham et al., 2012). Keyboarding skills instruction also benefited writing fluency and quality (ES = 0.38). Spelling was included in three studies and had a small positive impact in two cases. In Graham, Harris and Chorzempa (2002) the effect was negative in comparison to math instruction for grade 2 students. This was a puzzling outcome.

3.2.2.8 Grammar Instruction

Grammar Instruction led to a weighted average ES of -0.41 (range -1.49 – 0.47, n=4), that is, a small negative impact (Graham et al., 2012). Two studies showed a positive outcome when compared with process writing, which is surprising. One study was with students who were 'bilingual language learners'; such students may have different needs and might benefit from grammar work in a second language. The other study resulted in only a small impact (E=0.21, n=33; Pantier, 1999) and had small numbers. By contrast, when grammar was compared with writing strategy instruction there were large negative impacts, but this may reflect it being the control in relation to a very effective

intervention. Graham, McKeown, Kiuhara and Harris contradicted themselves in the article and their supplementary table: a study compared grammar with regular class teaching for the full range of attainment with by far the largest numbers of participants (508) and resulted in a moderately negative effect (E=-0.38)(2012). This is referred to in the supplementary tables and in the body of the text (p887). However, the authors stated in their caveats section of the article that grammar was the control condition in all four studies and they advised caution in the interpretation of the findings of the meta-analysis. It was not possible to source the unpublished doctoral dissertation of Thibodeau, A.E. from 1964 (or 1963, as listed in the supplementary table) to investigate. Nonetheless, it is still fair to conclude from this meta-analysis that grammar instruction should be avoided, except with bilingual language learners, as it is not effective and there are other activities which have more beneficial impacts. Looking at broader literature on this area, the English Review Group's review of the effect of grammar teaching (Andrews, Torgerson, Beverton, Locke, Low, Robinson & Zhu., 2004) concluded, "We now know that there is no high quality evidence that teaching of traditional grammar or syntax (or the direct teaching of formal or generative/transformational grammars) is effective with regard to writing development." (p5). This meta-analysis (2012) provided no reason to change this view.

3.2.2.9 Pre-writing Activities

The theme of Pre-writing Activities led to a weighted average ES of 0.54 (range 0.37 – 0.88, n=8) (Graham et al., 2012). All of the studies showed a positive impact upon writing. Pre-writing amounted generally to planning through the use of notes or pictures prior to writing. One study included gathering information from the internet.

3.2.2.10 Peer Assistance When Writing

The Peer Assistance When Writing theme led to large positive impacts, with a weighted average ES of 0.89 (range 0.67 – 1.33, n=4) (Graham et al., 2012). Peer assistance amounted to helping one another with writing for three studies while one study also included editing.

3.2.2.11 Product Goals

The theme of Product Goals led to an average a weighted average ES of 0.76 (range 0.28 – 1.49, n=7) (Graham et al., 2012). Further analysis showed the effect was less strong, but still significant, for struggling writers (ES =0.43, n=4) compared with the full range (ES= 0.71, n=4). Two studies had the goal of writing a paragraph and these had the strongest impacts, both being over 1.0. Most goals related to content, such as writing persuasive text or improving the evidence used, sometimes using explicit sub-goals. These too all demonstrated a positive impact upon writing.

3.2.2.12 Assessing Writing

The Assessing Writing treatment led to a weighted average ES of 0.42 (range -0.02 – 1.12, n =14) (Graham et al., 2012). Studies which examined the use of teacher feedback, peer feedback or self-assessment through the use of rubrics or six trait methods led to positive outcomes (range 0.23-1.12, n =11). By contrast, three studies included in this treatment led to negative or negligible impacts. Two examined professional development on 6 +1 traits (ESs = -0.01 and 0.10) and one investigated cross-age tutoring along with writing traits (ES= -0.02). The variance for the treatment as a whole was such that Graham et al. compared adult feedback (ES=0.80, n=5), with peer or self-feedback (ES=0.37, n=10). Peer and self-feedback used rubric or trait approaches but what the teachers used to assess was not specified.

3.2.2.13 Word Processing

Word processing compared to handwriting led to a weighted average ES of 0.47 (range -0.44 – 1.46, n=10) (Graham et al., 2012). Studies where the treatment continued for at least a year for the full range of attainments all had significant impacts (range 0.43 – 0.71, n=3). Shorter time periods were much more variable. Word processing with assistance with vocabulary software and speech synthesis (ES = 1.05, n=1) or planning/drafting software (ES=1.46, n=1) resulted in large impacts for struggling writers.

3.2.2.14 Extra Writing Time

The provision of extra writing time resulted in better writing outcomes with a weighted average ES of 0.30 (range -0.25 – 0.69, n=5) (Graham et al., 2012). The effect size would have been higher if English Language Learners had not been included (range 0.33- 0.69, n=4).

3.2.2.15 Comprehensive Writing Programmes

These included a range of approaches and the average ES of 0.42 (range -0.18 – 2.20, n=25) (Graham et al., 2012). Most studies were into process writing and yielded an impact of ES=0.40 (n =16) while the varied remainder produced a weighted average ES of 0.55 (n=9). Nonetheless, four programmes led to negative outcomes; all of these investigated process writing.

3.2.2.16 Other Factors

Graham et al. (2012) believed they had identified effective writing treatments, despite the relative lack of research in this area. They acknowledged that they did not know what combinations to use and that because of the differences in contexts teachers needed to monitor effects to be sure what they do is working. They emphasised the importance of effective teacher training and professional development.

3.2.3 Rogers and Graham (2008)

3.2.3.1 Overview

A meta-analysis of writing instruction for students in grades 1- 12 was limited to single subject design studies, that is, with measures taken pre, during and/or after the treatment by Rogers and Graham (2008). Treatments had to include four or more studies. They included students in state and private schools, summer programs, clinics, and special schools or residential centres. A notable omission was the exclusion of studies that focused on handwriting or spelling. When calculating the effects of the interventions they used the percentage of non-overlapping data (PND) points between baseline and

treatment phases because of the within-subject nature of the design. A criticism of PND can be that because the single highest baseline point is used for the comparison it is subject to being unreliable. PNDs were interpreted using criteria proposed by Scruggs, Mastropieri, Cook and Escobar (1986, in Rogers & Graham, 2008) : > 90% = large effect; 70.1-90% = moderate; 50.1% -70 % = small; <50% = not effective. Mean (*M*) and Median *(Mdn)* PNDs were calculated. Median scores remove the impact of outliers and so are perhaps more reliable. They give the effect of the average study in that treatment rather than the average effect of a study, providing more validity.

3.2.3.2 Strategy Instruction in Planning/Drafting

This had a large effect on the number of basic genre elements in the writing of the grade 2-8 students investigated, most of whom were struggling writers (full range of ability was only included in grades 4-8) (PND *M* = 96% , *Mdn* = 100%, Range = 67%-100% , number of studies = 21) and this was maintained over time (PND *M* =90%, *Mdn* =100% , Range = 25%-100%, n= 18) (Rogers et al., 2008). The range was quite large. The treatment had a large effect on productivity (number of words written) (PND *M* =91%, *Mdn* =95%, Range =68% -100%, number of studies = 10) and writing quality ((PND *M* =99%, *Mdn* = 100%, Range = 97%-100%, number of studies =5). The effect on production was assessed for maintenance, which was large (PND *M* = 86%, *Mdn* = 100%, Range =33% -100%, number of studies =7). There was some evidence that these skills were generalised to other genres (PND *M* =85%, *Mdn* = 86%, Range = 7%-100%, number of studies = 4).

3.2.3.3 Teaching Grammar

This included a range of studies for grades 2, 5-6, such as peers teaching capitalisation to peers and teachers teaching formal grammar. The former was strictly speaking, punctuation. They are not necessarily the same thing. As an anonymous blogger at Kaplan University remarked, “Punctuation marks are the symbols we use to clarify meaning, question marks, exclamation points, periods, etc…Grammar is the structure of language. You can think of it as word order and choice. How we order our language is part of what determines meaning.” (KUWCNEWS, 2012). Teaching grammar had a moderate effect on the correct use of grammar (PND *M* =83%, *Mdn* =84%, Range

=75%-88% , number of studies=4). Rogers and Graham recognised that their finding was at odds with previous meta-analyses but suggested it was because all the participants were struggling writers (2008). Furthermore, 21 of the 33 students included in the studies in this theme had been classified as "learning disabled" or having "mild mental retardation".

3.2.3.4 Goal Setting for Productivity

Goal setting had a significant effect on productivity at primary and secondary level (PND *M* = 79%, *Mdn* = 91%, Range = 26%-100%, number of studies =7) (Rogers et al., 2008). The effect on full range groups showed less variation (range = 60%-100%). What the effect was on quality was not given.

3.2.3.5 Strategy Instruction in Editing

Instruction in editing had a significant impact for all students but the authors had concerns about the quality of the studies included (PND *M* =84%, *Mdn* =100%, Range = 50%-100%, number of studies =5) (Rogers et al., 2008).

3.2.3.6 Word Processing as a Primary Tool for Writing

For struggling writers word processing had a moderate effect on the amount of writing produced (PND *M* = 70%, *Mdn* = 75%, Range = 29%-100%, number of studies = 4). Again, Rogers and Graham expressed concerns over the lack of controls in half the studies (2008).

3.2.3.7 Reinforcement

This theme related to the use of teacher praise, displaying work and the use of group reinforcement. It had a large effect on production by the grade 3-6 full range and struggling writer students studied (PND *M* = 96%, *Mdn* =100%, Range = 84%-100%, number of studies =4) although the quality of the research was questioned (Rogers et al., 2008).

3.2.3.8 Pre-writing Activities

Pre-writing activities had a small, positive impact upon the quality of writing produced by struggling writers (PND *M* = 52%, *Mdn* =55%, Range =13%-84%, number of studies =4) (Rogers et al., 2008).

3.2.3.9 Sentence Construction Skill Instruction

Instruction in sentence construction had a moderate impact upon the percentage of complete sentences written for full range and struggling writer students (PND *M* =86%, *Mdn* =83%, Range =78%-100%, number of studies =5) but the quality of the studies was poor (Rogers et al., 2008).

3.2.3.10 Strategy Instruction Related to Paragraph Construction

This had a large effect for full range and struggling writer students on correct paragraph usage (PND *M* =97%, *Mdn* =100%, Range = 89%-100%, number of studies =4) (Rogers et al., 2008). Only grade 8-9 students were studied and the studies' quality was poor.

3.2.3.11 Self-monitoring

Self-monitoring was not effective at increasing the amount of writing produced in these studies (PND *M* =51%, *Mdn* =43%, Range =23%-91%, number of studies =7). Rogers and Graham decided not to recommend the treatment. However, a look at the range shows that this is an area that should not simply be discounted.

3.2.4 Graham and Perin (2007)

3.2.4.1. Overview

Writing instruction for adolescent students (grades 4-12) in mainstream public and private schools was investigated by Graham and Perin (2007). All the studies included at least two groups of students receiving different instructional conditions. They excluded correlational, qualitative and single-subject design studies. Treatments had to

include four or more studies to be included and weighted effect sizes were only calculated for writing quality.

3.2.4.2 Process Writing

Process writing led to a weighted average ES of 0.32 (range -1.0 – 0.83, n=21) (Graham et al., 2007). This was a large range. When the treatment included professional development of teachers a weighted average ES of 0.46 resulted (range 0.14 – 0.83, n=6) for grades 4-12. This was for the full range of ability found in a mainstream class. A weighted average ES of just 0.03 (range -1.0 – 0.69, n=15) was found when training was not given, although this included studies which focussed on struggling writers of different types. Nevertheless, for grades 4 to 6 process writing without professional development still led to a small, positive weighted average ES of 0.27 (range -0.30 – 0.69, n =7) compared with grades 7-12 weighted ES = -0.05 (range -1.0 – 0.28, n= 8). Clearly, professional development must go alongside a process writing approach.

3.2.4.3 Grammar Instruction

Instruction in grammar led to a weighted average ES of -0.32 (range-1.40 – 1.07, n=11) (Graham et al., 2007). This large variation was reduced to a level that could be expected through sampling error alone when two ‘outliers’ were removed from the group resulting in a weighted average ES of -0.34 (range-0.61– 0.30, n=9). One ‘outlier’ showed that Grammar instruction was least effective (ES=-1.40) when compared with strategy instruction in planning or revising. This may reflect the power of the second intervention rather than the weakness of grammar instruction. The second outlier was a study comparing grammar instruction in context with traditional grammar instruction. It found that studying in context is far better than in abstract. However, this had been included as a positive effect size for the grammar instruction treatment as a whole, despite being the *only* study where it was taught in context and despite it being in comparison to traditional grammar instruction, which from the other studies can be seen to be less than effective. In fact, besides this outlier only one other study showed a ‘small’ or better positive impact (ES= 0.30). Interestingly this was cited as Pantier (1999) (an unpublished doctoral thesis) which had also been cited in Graham et al. 2012 but with an effect size of 0.21. There has clearly been an error. It was not possible to

find an abstract of the study through searches ERIC, the internet at large and Scopus and Web of Science. However both sizes could be termed small effects. Grammar instruction was compared to reading and writing (ES=0.03) in one study and was shown to have no greater impact. Grammar instruction for students in mainstream classes should therefore not be considered.

3.2.4.4 Sentence Combining

This treatment involves teaching students how to construct more complex sentences through exercises where two or more sentences are made into one. This led to a weighted average ES of 0.50 (range 0.21–0.66, n=5) (Graham et al., 2007).

3.2.4.5 Strategy Instruction in Planning and/or Revising and/or Editing

This theme combined studies with one of these strategies or a combination giving a weighted average ES of 0.82 (range 0.14–3.50, n=20) (Graham et al., 2007). With such large variation, further analysis was done. SRSD studies yielded greater impacts (ES= 1.14 range 0.51 – 1.86, n= 8) than non-SRSD ones (ES=0.62 range 0.14–3.50, n=12) although it was not used on grades 9-10. This demonstrated the importance of self-regulation, which was not evident in the name of this category. One study of special needs learners compared process writing with process writing and peer revision and showed a large impact (ES=1.09) but this seemed to be more a measure of the effectiveness of collaboration than strategy instruction. In addition, the weighted average for struggling writers (ES= 1.02 range 0.14–3.50, n=11) was higher than for the full range of ability (ES= 0.70 range 0.14–1.40, n=11). Nonetheless, these were still significant impacts.

3.2.4.6 Summarisation Instruction

Instruction in Summarisation led to a large weighted average ES of 0.82 (range 0.18–1.12, n=4) (Graham et al., 2007). The lowest effect size was in a study with high ability grade 8 students; perhaps they already knew how to do this.

3.2.4.7 Text Structure Instruction

This treatment included five studies with such a range in effect and control conditions that Graham and Perin decided they were unable to draw any conclusions (2007). It is notable that two studies where basic story elements were given led to significant impacts on writing quality (ESs = 0.70 and 0.32) the smaller effect was evident when the control was instruction in poetry. More recent meta-analyses have shown the treatment to be an effective form of instruction at elementary school (Graham et al., 2012 (see above)).

3.2.4.8 Pre-writing Activities

The studies in the Pre-writing Activities treatment largely centred around planning although one study used sematic webs, and led to a small weighted average ES of 0.32 (range 0.06–0.95, n=5) (Graham et al., 2007). The lowest effect size was found in a study where students brainstormed and organised ideas prior to writing. The control was work on writing correct paragraphs. Perhaps how writing quality was assessed was a factor in this.

3.2.4.9 Inquiry Activities

For this treatment students analysed data and information before writing. It led to a weighted average ES of 0.52 (range-0.07– 0.75, n=5) (Graham et al., 2007). In the three studies with controls involving discussion facilitated by teachers or students or traditional teacher questioning the impact of inquiry was negligible or negative.

3.2.4.10 Peer Assistance When Writing

Studies where students worked together to plan, draft and/or revise, led to a weighted average ES of 0.75 (range 0.19–1.18, n=7) (Graham et al., 2007). In the two studies in high schools, the effect on high ability students was medium but the effect on struggling writers and those with special needs was large.

3.2.4.11 Study of Models

The study of models led to a weighted average ES of 0.25 (range -0.29–0.44, n=6) (Graham et al., 2007). The one study with a negative effect compared it with writing paragraphs with an emphasis on correction of drafts.

3.2.4.12 Product Goals

Product goals led to a weighted average ES of 0.70 (range 0.38–1.69, n=5). The goals all related to writing content rather than the amount.

3.2.4.13 Word Processing

This theme led to a weighted average ES of 0.55 (range-0.18–1.74, n=18). The variation was considerable but they were unable to factor it out. The most recent study (2003) had a large impact through providing full range students with continuous laptop access for a year (ES= 1.11).

3.2.5 Graham and Hebert (2011)

3.2.5.1 Overview

The impact of writing and writing instruction on reading was investigated by Graham and Hebert (2011). They employed a shared knowledge view of reading-writing connections, that is, that they both rely on common processes and knowledge. Consequently, they predicted that reading would be affected by writing.

3.2.5.2 Effects of Writing upon Reading

Writing about material being read in grades 2-12 enhanced reading comprehension on researcher designed measures with an average weighted ES of 0.50 but a large range (range -0.15- 1.37, n=55). Looking at studies where measures were made using norm-referenced tests (NRTs) they found a small positive effect (ES= 0.37; range-0.59- 0.75;

n= 11). Writing about their reading had a medium impact upon weaker readers/writers (ES= 0.64; range -0.17 -0.81; n= 10) (Graham et al., 2011).

Writing instruction had only a small positive impact on grade 4-12 students' reading comprehension skills (ES=0.22; range =0.02- 1.78; n=12) (Graham et al., 2011). However, studies involving spelling or sentence construction resulted in a medium impact on reading fluency for grades one to seven (ES=0.66; range 0.32-1.17; n= 5). Fluency was not considered in older students. Similarly, studies with students in grades one to five involving just spelling resulted in a medium impact on word reading (ES = 0.62;range 0.34-1.78; n= 6).

Increasing the amount students write had a significant impact on the reading comprehension, as measured using norm-referenced tests (average weighted ES= 0.35, range 0.01 – 0.56, n= 6) (Graham et al., 2011). A look at their titles shows that a range of writing activities were employed including specific programmes, pen-palling, shared journal writing and reading journals. Writing in a reading journal had no impact.

3.2.5.3 Summary

It's clear that writing significantly enhances reading comprehension for grades 4-12 and fluency for at least grades 1-7 and word reading for at least grades 1-5. A writing instruction intervention can therefore have additional benefits to academic attainment. Furthermore, since this confirms the presence of a shared set of knowledge and processes in reading and writing improving reading should have an impact upon writing. This would be worthy of investigation.

3.2.6 Comparison of Meta-Analyses Results

A table of the writing instruction treatments from each relevant meta-analysis follows (see Table 3.2, p.40). There was some overlap between the age-ranges covered so a column for school level was included.

Rogers et al.'s (2008) meta-analysis had a small fraction of the number of participants of the other two studies and notably did not identify as many treatments. It was limited

in scope due to the focus on single subject design studies so omission does not necessarily imply a treatment is less effective. Continuing with instructional approaches which were effective at both elementary and high school level the one with the largest impact, in the two larger meta-analyses, was SRSD. Peer Assistance had a large impact at elementary level and a medium impact at high school, with a large effect for struggling high school writers.

Teaching Sentence Construction skills had a moderate impact at high school level (this included sentence combining study) (Rogers et al., 2008) while Sentence Combining was found to be of medium impact at both levels. The remaining approaches with impacts on both levels were solely in Graham and Perin (2007). Process Approaches with professional development had a small impact. Without development there was a small impact for students in grades 4-6, albeit smaller than with development, but it was ineffective for the rest. Study of Models had a small impact.

Some treatments were effective at one level only. This does not necessarily mean they are ineffective at the complementary level, as they may not have been studied with that age group. At the elementary level, Summarization, Reinforcement (but the research was poor), Assessing Writing – Adult Feedback and Creativity/Imagery Instruction all had large impacts. Text Structure Instruction, Teaching Transcription Skills, and Self-Regulation with Strategy Instruction had medium impacts. Assessing Writing including Peer Feedback, Comprehensive Writing with or without Process Writing Approaches and Extra Writing Time had small impacts. Self-Monitoring had no effect on its own according to Graham and Perin (2007) but was an important aspect of the most effective treatment overall, SRSD. At high school level only Inquiry Activities had a small impact but the studies appear to include confounding variables.

Table 3.2: Writing Instruction Approaches from Meta-analyses with Effect Size/PND

Meta-Analysis	Writing Instruction Approach - Treatment	School: Elementary /High/Both	Effect Size /Median PND
Graham, McKeown, Kiuhara & Harris (2012) Total participant n=10,341	Self-Regulated Strategy Development (SRSD)	Elementary	1.17
	Strategy Instruction including SRSD	Elementary	1.02
	Peer Assistance	Elementary	0.89
	Assessing Writing – Adult Feedback	Elementary	0.80
	Product Goals	Elementary	0.76
	Creativity/Imagery Instruction	Elementary	0.70
	Strategy Instruction Non-SRSD	Elementary	0.59
	Text Structure Instruction	Elementary	0.59
	Teaching Transcription Skills	Elementary	0.55
	Other Comprehensive Writing Programmes	Elementary	0.55
	Prewriting Activities	Elementary	0.54
	Self-Regulation + Strategy Instruction	Elementary	0.50
	Word Processing	Elementary	0.47
	Product Goals*	Elementary	0.43
	Assessing Writing	Elementary	0.42
	Comprehensive Writing Programmes	Elementary	0.42
	CWP + Process Writing Approach	Elementary	0.40
	Assessing Writing – Peer Feedback	Elementary	0.37
	Extra Writing Time	Elementary	0.30
	Grammar Instruction	Elementary	-0.41
Rogers and Graham (2008) Total participant n=618	Strategy Instruction Planning and Drafting – Writing	Both	100%
	Strategy Instruction Planning and Drafting	Both	100%
	Strategy Instruction Editing - Errors Corrected	Both	100%
	Strategy Instruction Paragraph Construction - Writing	High School	100%
	Reinforcement - Effect on Productivity	Elementary	100%
	Strategy Instruction Planning & Drafting - Productivity	Both	95%
	Goal Setting - Productivity	Both	91%
	Teaching Grammar *- Grammar	Elementary	84%
	Sentence Construction - Number Complete Sentences	High School	83%
	Word Processing *- Productivity	Elementary	75%
	Prewriting Activities*	Both	55%
	Self-Monitoring* - Productivity	Elementary	43%
Graham and Perin (2007) Total Participant n=11,927	Strategy Instruction - SRSD	Both	1.14
	Summarization	Elementary	0.82
	Strategy Instruction	Both	0.82
	Peer Assistance	Both	0.75
	Product Goals	Both	0.70
	Strategy Instruction - Non SRSD	Both	0.62
	Word Processing	Both	0.55
	Sentence Combining	Both	0.50
	Process Approach With Professional Development	Both	0.46
	Process Approach	Both	0.32
	Prewriting	Elementary	0.32
	Inquiry	High School	0.32
	Process Approach No Prof. Development Gr. 4-6	Elementary	0.27
	Study of Models	Both	0.25
	Process Approach No Prof. Development	Both	0.03
	Process Approach No Prof. Development Gr. 7-12	High School	-0.05
	Grammar	Both	-0.32

* *Only struggling writers*

3.2.7 Meta-Analyses Summary

It is clear from looking at the results as a whole that writing instruction approaches can have large impacts upon students' writing quality and productivity. Many are effective at both age levels. A number which were important at elementary level have great potential for high school students, such as Creativity/Imagery Instruction, Summarization and Reinforcement. Some had small impacts but were relatively easy to do, such as simply spending more time writing or letting peers assess each other's work. Moreover, improving writing has the added benefit of improving reading skills. Professional development can make interventions more effective so is an important aspect of introducing new approaches to staff.

The relative lack of writing research means there may be good interventions which were excluded by virtue of not having four separate studies or not being a single subject design. Similarly, High School students encounter writing with a wider range of teachers but this was not really explored. Furthermore, some of the approaches may not lend themselves to combination with other approaches. It therefore falls next to examine the remainder of the literature on writing instruction before considering which elements to include in interventions.

3.3 Explicit Instruction

Some studies attempt to directly teach children how to write, either by considering the process or the features the writing should contain or a mixture of both. Further details will be found below in table 3.3 (see p.46).

3.3.1 Process

Ho (2006) and Hough, Hixson, Decker, Bradley-Johnson (2012) both taught elementary children the process of brainstorming, planning, drafting and revising. Neither used a control, neither sample was randomly selected and neither calculated the statistical significance of their results. Hough et al. provided intense one-to-one instruction themselves and a time-limited structure resulting in a written text within 12 minutes, which bore little resemblance to the QuickWrite programme they referred to, not least

because a final further, untimed, production of final draft stage was omitted. The intervention resulted in fewer words being written but an improvement in story grammar elements; other features were not considered. Ho did not use such rigid time limits and the intervention was for whole classes. It led to absolute increases in content, organisation and language scores. Revision had been seen in 4% of the students prior to the intervention but after the intervention revision was used by 96%. Similar figures were found for brainstorming, story planner use, drafting and editing from a baseline of 0 % (99.4%, 85.7%, 100% and 97.1% respectively). Yet writing scores seemed to remain low overall, not reaching half marks and the author expressed bias in the discussion by presuming the outcomes of further research (p.19). Furthermore, it was not made clear when the 'post' measurements were made meaning maintenance is unknown.

The improvement in children's scores on a writing assessment between first and second drafts was examined by Zhang (2001) (see table 3.3, p.48). The study did not examine whether or how the children had been taught a process writing approach and the schools were not randomly selected. A minimal improvement for their second draft was showed by 34% and an improvement that may have been evidenced in their test score by 9%. There was a weak to moderate correlation between total changes made and improvement of essays. Improvements in essays were correlated weakly-to-moderately with changes at sentence level for all and multi-sentence level for grades 5, 8, 10. Clause changes were weakly correlated for all while text changes ranged from almost no correlation in grade 3 to moderate in grade 5. The author suggested this could have been due to the small numbers making text changes. It would have been helpful if probabilities had also been calculated. It is not surprising that these more sophisticated changes resulted in greater improvements than an examination of spelling and presentation. Zhang pointed out that students in grades 5,8,10 whose second drafts showed improvement used pre-writing strategies; however 62.5% of all students whose essays showed no improvement did use a pre-writing strategy. Improvement is more of a function of the revision processes, especially at the sentence or higher level. Providing the opportunity to draft and revise without the necessary skills might be an explanation why 66% of essays showed no improvement whatsoever.

Kieft, Rijlaarsdam and Van Den Bergh (2006) (see table 3.3, p.48) were not examining writing quality but rather the effects of planning and revising strategies upon literary interpretation. Somewhat alarmingly they found that their intervention was associated with poorer outcomes overall. However, they managed to glean that students with average or above revising skills significantly improved their literary interpretation when given planning instruction (p=.04) but not vice versa. Being able to plan well is therefore associated with a good understanding of literature.

3.3.2 Features

All but the Myhill, Jones, Lines and Watson (2012) and Purcell-Gates, Duke and Martineau (2007) studies in this section encouraged students to revise their work in line with the models/features being advocated but other elements of process writing were not included (see table 3.3., p.46). Coe, Hanita, Nishioka, Smiley (2011) investigated the impact of the 6+1 Trait Writing Model where students were taught to consider different features when writing, namely: ideas, organization, voice, word choice, sentence fluency, conventions, and presentation. Statistically significant impacts were found overall and for organisation, voice and word choice. Unfortunately, the effect sizes were very small. Perhaps this could have been explained by the poor programme implementation. By the end of the intervention 85.6 % of treatment teachers reported using basic or advanced implementation of the model features; a significant number were still not doing so. This was exacerbated by 58.3% of control teachers reporting that they were using the model features too!

Difficulties with program fidelity were also seen in Myhill et al. (2012). The actual figures were not reported but it was stated that just over half of teachers maintained high fidelity to their intervention teaching schemes: meaning that nearly half of teachers did not; some intervention teachers actually reported circumventing the grammar focus altogether. Myhill et al. were investigating the impact of what was they called contextualised teaching of grammar, within writing lessons, in an impressively large scale study (N=744). Further details of the same study were reported in Jones, Myhill and Bailey (2013) although both articles reported few statistics. The study was puzzlingly described as a randomised control trial when it was not: the sample was stratified first and then randomly allocated at the level of the class. In addition, the

baseline data, which was used to stratify the sample, was collected two years before the investigation began. Ultimately the overall effect of the intervention was small (ES= 0.21). Furthermore, they split the sample into "below average" and "above average" writers on the basis of prior attainment and found it only had an impact with the better writers. The lack of statistics in the articles prevents further comment on this. There were further difficulties with the study. For a grammar intervention it did not seem to contain much grammar. Instead, the focus was on "effects and constructing meanings, not on the grammatical terminology: building on the concept of writing as design" (p 148). Despite this, a strong theme in the teacher reflections was that aspects seen as too difficult for the students "always related to the grammar focus" (p.155). Nevertheless, the authors claimed the study provided "robust evidence for the first time of a positive benefit derived from the teaching of grammar…" (p.139). However, the intervention had many other variables which could have accounted for the improvements in writing quality. Firstly, it included the use of model patterns of language from authentic texts, or what could be described as literary devices, for the students to emulate and modify. Examples included: the use of short sentences for impact and varying sentence lengths to create textual rhythm. Secondly, the intervention included activities to encourage talking about language and effects. Indeed, teachers commented on the good quality of these discussions. Thirdly, students were encouraged to play and experiment with language. Finally, activities were provided to support students in making choices and becoming "designers of writing" (p.148). Overall, the study was poorly executed with too many variables. It certainly was not evidence of the benefit of grammar teaching. In fact it would have been interesting to compare this intervention with an intervention which only involved the four other variables: they could well have seen the same or even a larger impact.

The effectiveness of four different approaches to improving writing with a mix of elementary and high school students was investigated by Knudson (1989). She compared: the study of models; instruction in scales, questions and criteria; study of models and instruction in scales, questions and criteria; free writing plus picture prompts. No baseline measures were taken nor a 'no treatment' control used. Measures were taken immediately after treatment and two weeks later. Comparisons were made on the basis of reading ability with readers above 50th percentile termed 'above average' and those below 50 as 'below average'. This is likely to have exaggerated the

differences between some members of the groups; many of whom would have been considered ‘average’ readers using more conventional measures of between 16th and 84th or 25th and 75th percentiles. It also potentially makes the abstract read in isolation misleading. The type of treatment had a statistically significant effect and Knudson concluded that the study of models was the most effective approach, followed by free writing. However, although the study of models was the most effective for the ‘above average’ readers followed by free writing, free writing led to greater gains for the ‘below average’ readers. Moreover, their writing continued to improve two weeks after the intervention. The second strongest impact for ‘below average’ readers was the study of models and this too showed a continued improvement two weeks later albeit to a lesser extent. Perhaps a fairer conclusion may have been that these two approaches were the most effective. Knudson was quick to conclude that students presented with scales, questions, criteria or these plus the study of models did not ‘improve’ (p.94). Yet the lack of a control means it isn’t possible to say what their performance may have been without that input. Furthermore, ‘above average’ readers in the scales, questions, criteria condition did improve over the two weeks post treatment. It would have been interesting to look at effects again a few months later in order to examine maintenance with more rigour.

The use of a graphic device to support high school student thinking processes when writing an essay was examined by Bulgren, Marquis, Lenz, Schumacher and Deshler (2009) (see table 3.3, p.48). The effects were large but the quality of the study was not good: the participants were paid and relatively few in number; it did not happen in class; the researcher completed the graphic device with them; there was no test of whether the students could use it without support or the longer term impact. It was difficult therefore to draw firm conclusions from this study alone. Such conclusions are similarly hard to draw from Gibson (2008). She utilised a small group daily guided writing approach which could not be as easily done with a full class. She delivered the intervention herself which raised the possibility of bias, even if unwitting. The inclusion of interest-building activities was novel. Some qualitative differences were seen in the students’ work but this was over a period of three months and without a control group, so it may have happened regardless.

Purcell-Gates, Duke, & Martineau (2007)(see table 3.3, p.48) investigated the explicit teaching of science informational and procedural genres to grade 2-3 students with authentic science literacy experiences (i.e. science reading or writing with a real life communicative purpose) with authentic experiences alone. Holistic scores for informational and procedural writing showed no statistically significant changes due to any of the approaches but this could reflect the measures used. Despite a large sample size numerous measures showed no statistical significance yet puzzlingly had notable effect sizes quoted. Few statistically significant differences were found at the end of two years besides more procedural writing features for grade 2 students but not grade 3. Presumably by grade 3 the exposure to authentic science experiences had taught them the features informally. The authors then considered the effects of degree of explicitness of genre teaching and found it was not significant. Next, the effect of the degree of authenticity of the science reading and writing events was examined. It transpired that for informational writing it led to better writing verbal features scores for informational writing, with a large effect for 3rd graders (Gr.2 p=.032, ES=0.38.Gr3 p=.055, ES= 0.85) and better visual features for 3rd graders only (Gr.2 p= .266, ES=0.34, Gr.3 p=.013, ES=1.84). Interestingly, informational reading comprehension was significantly statistically affected by the degree of authenticity with medium to large effects for both grades (Gr.2 p= .042, ES=0.70, Gr.3 p= .045, ES=0.91).

3.3.3 Features and Process Together

Writing workshop approaches which included the study of model texts and the writing process together with frequent opportunities for writing were investigated by Tracey and Headley (2013) and Corden (2007) (see table 3.3, p.48). Tracey and Headley found statistically significant improvements in a wide range of writing and reading skills and improvement in other subjects was reported. However, the numbers were small, there was no control and it is not known if the gains were sustained. Corden reported that 80.2% had made double the level of expected progress in writing. However this must be tempered slightly by the fact that although he used the National Curriculum Levels as a benchmark the participants, unlike their comparisons, did not complete an exam as their performance was compared with the level criteria. This meant they had had some choice in what they wrote about and fewer pressures such as time and exam stress. Also a degree of judgement was involved around which level descriptor was closest to the

writing samples examined whereas the examinations are more rigid. Nonetheless, it would be fair to say this intervention had a very significant impact. A control group would have made conclusions easier to draw, as would maintenance data. He reported that effects deteriorated if the intervention was not maintained but gave few details on this. In addition, an opportunity was missed to examine the effects of the approach on students with different starting points in writing ability.

Staying with elementary students, Moening and Bhavnagri (1996) implemented a programme of process and product elements together with student choice of topic and mini-lessons to address deficits (see table 3.3, p.48). The product was emphasised, perhaps, through the use of a showcase portfolio which each child worked on. Over time, children's writing skills and motivation to go to the 'writing centre' were increased significantly. However, there was no control and given the age of the children one could expect quite large improvements over time just by attending school.

3.3.4 Explicit Instruction Summary

Disappointingly, much of the research in this area has weaknesses including: the lack of assessment of maintenance; lack of control groups; small sample sizes; the use of too many variables; researchers delivering the interventions; lack of baseline assessments; poor programme implementation. Nevertheless, some conclusions can still be drawn. Students can benefit from both the process and features aspects of writing. Pre-writing, planning, drafting and revising can impact upon skills (Ho, 2006; Zhang, 2001). Revision needs to be beyond an examination of spelling and word choice (Zhang, 2001). The study of models or 'mentor texts' alongside teaching of the writing process can contribute to significantly improved outcomes for students, with an average of double the rate of expected progress (Corden, 2007). Reading and writing for authentic purposes (Purcell-Gates et al., 2007) also has a role to play (De La Paz, 2005). It is apparent there are a range of skills which can be developed to improve writing productivity and quality. Moreover, different students need to work on different aspects to greater and lesser extents, for example, free writing is particularly beneficial for readers below the 50th percentile, but in general there is scant research on this (Knudson, 1989). A balance of approaches will be required to raise writing standards overall.

Table 3.3 List of Explicit Instruction Studies with Features and Effect Size and/or Statistical Significance Where Appropriate.

Study	**Treatment**	**Process Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control (R= Randomly Assigned)**	**Statistical Significance / Effect Size (ES)**
Bulgren, Marquis, Lenz, Schumacher, Deshler (2009)	Graphic Device, Questioning by adult, Essay Structure Instruction	Revise	With And Without Learning Difficulties	9-12	Exp=18 Con=18 N=36	5 days	Essay Structure Instruction R	ES= 1.44 Learning Difficulties ES=1.32 Non LD ES= 1.32
Coe, Hanita, Nishioka, Smiley (2011)	6+1 Traits Writing Model	Revise	Full Range Except Disabled Students Exempt From Taking Regional Test (N=22)	5	Exp=2230 Con= 1931 N=4161	2 cohorts of 8 months	No Intervention R	Overall p= .023 ES=0.081 Organisation p= .031 ES= 0.117 Voice p= .023 ES= 0.132 Word choice p= .018 ES=0.144
Corden (2007)	Weekly Writing Workshop On Extended Writing, Process Writing, Study of Models, Explicit Instruction In Literary Devices, Teacher and Peer feedback, Focussed Group Discussions	Discuss Plan Draft Revise	Teachers Selected Two Below Average, Average, Above Average Mainstream Students	2-5	N= 96	School Year	None	80.2% (77) Improved 1 NC level 19.8% (19) Improved 2 NC levels *National Expectation: Improve 0.5 National Curriculum(NC) Level Per School Year*

Study	**Treatment**	**Process Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control (R= Randomly Assigned)**	**Statistical Significance / Effect Size (ES)**
Gibson (2008)	Small Group Guided Writing Lessons for Informational Text Preceded By Practical Interest Building Activities	Revise (In Context)	Average Literacy Skills	2	N = 5	Daily for 3 months	None	*Qualitative:* Self-Correction, Moved From Mechanics To Word Choice, Organisation And Phrase Level Composition Began To Re-Read For Clarity Self-Talk While Writing Moved From Phoneme To Whole Words Consulting Own Texts While Writing Moved From Spellings To Details
Ho (2006)	Process Writing *in Hong Kong in English.* Aided by Graphic Organisers and Checklists.	Brainstorm Plan Draft Revise Edit	Very Weak, Weak, Fair and Mixed Ability in English	2-5	N=175	Weekly For Seven Weeks	None	Absolute Increases In Content, Organisation And Language Were Seen For All Groups. Significance Not Calculated.
Hough, Hixson, Decker, Bradley-Johnson (2012)	*Adapted* QuickWrite Writing Programme – Final Draft Stage Not Included, Different Time Limits. Write A Story In 12 minutes.	Brainstorm Plan Draft Revise	Writing Skills ≤ 25 Percentile And One Of The Poorest 5 Writers In That Class And Not Receiving Special Education Services For Writing	2	N = 6	20-30 Mins *Individual Lessons* 4-5 Times Per Week Over 3 To 5 Weeks. Post Test 4 Weeks Later	None	*Average Total Words Written In 12 Minute sample* Baseline 62.8 Post 53.8 4 weeks Post 56.0 *Story Grammar Element Rating Scale* All Improved. Range = +2.4 to +7. (Further details not given)

Study	Treatment	Process Elements	Sample Characteristics	Grade	Group Size	Length of Study	Control (R= Randomly Assigned)	Statistical Significance / Effect Size (ES)
Kieft, Rijlaarsdam, Van Den Bergh (2006)	Planning Effects On Literary Interpretation *In The Netherlands In Dutch*	Plan OR Revise	General Education (n=52) and 'Pre-University Track'(N=61)	10	Exp1 (Plan)=57 Exp 2 (Revise)=56 N=113	90 mins per week for 5 weeks	Revising and Free Writing R	Literary Interpretation Skill *Reduced* Overall Under Both Conditions (P=.85) Students With Average Or Higher Revising Skills Pre-Intervention Learnt Most Under Planning Condition (*P*=.04)
Knudson (1989)	Exp. 1 Study Of Models Exp. 2 Scales, Questions, Criteria Exp. 3 Models + Scales, Questions, Criteria Exp. 4 Free Writing With Picture Prompt R	n.a.	Full Range Mainstream Reading Level Assessed	4,6,8	Per Exp. Not Given N=138	14 days plus 2 weeks	None	Treatment p = .034
Moening & Bhavnagri (1996)	Showcase Writing Portfolio + Teacher Models+ Writing Conferences + Process Writing + Student Topic Selection + Writing Centre+ Teacher Awareness	Pre-write Draft Edit Publish	Full Range Mainstream	1	N = 18	6 weeks plus 3 weeks	None	Post Significantly Higher Than Pre : Writing Quality p <.001 Words Written p <.001 Length of Journals p <.001 Number of Visits To Writing Centre (Motivation) p <.001

Study	Treatment	Process Elements	Sample Characteristics	Grade	Group Size	Length of Study	Control (R= Randomly Assigned)	Statistical Significance / Effect Size (ES)
Myhill, Jones, Lines & Watson (2012)	Contextualised Teaching Of Grammar In Narrative, Persuasive And Poetry Writing. -Grammatical Meta-Language Use -Links Between Grammar Features And Enhancing Writing Made - Study Of Models -Use Of Authentic Texts. - Discussions On Language And Effects. - Activities To Support Students Being Designers Of Writing. - Language Play, Experimentation And Games.	n.a.	Full Range Mainstream	7	Exp= 412 Con= 332 N=744	3 weeks three times over a school year	Control = Narrative, Persuasive And Poetry Writing. R At Level Of Class	Writing Performance p <.001 ES= 0.21.

Study	**Treatment**	**Process Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control (R= Randomly Assigned)**	**Statistical Significance / Effect Size (ES)**
Purcell-Gates, Duke, & Martineau, (2007)	Authentic Science Reading And Writing+ Explicit Teaching Of Genre Function And Features (Science Informational And Procedural Genres)		Schools Where Parents Within 25^{th} To 75^{th} Percentiles In Relative Numbers Of College Graduates	2-3	N=420	2 Years 45mins Twice Weekly	Authentic Science Reading And Writing R	Informational Writing Holistic Gr. 3 *p*=.308, ES=0.645 Verbal Features Gr.2 *p*=.271, ES=0.594 Visual Features Gr. 2 *p*=.228, ES=0.649 Procedural Writing Holistic Gr.2 *p*=.399, ES= 0.674 Gr.3 *p*=.696, ES= 0.388 Features Gr. 2 *p*=.048, ES=1.121 *Degree of Explicitness Of Genre Teaching* Informational Writing Verbal Features *Gr.2 p= .251, ES=0.252.* Visual Features Gr. 3 *p*=.473, ES=0.310 Procedural Writing Holistic Gr.2 *p*=.146, ES= 0.517, Gr. 3 *p*=.605, ES=-0.237 *Degree of Authenticity Of Reading and Writing Events* Informational Writing Holistic *Gr.2 p=.338, ES= 0.246* *Gr3 p= .674, ES=-0.248* Verbal Features *Gr.2 p=.032, ES=.383.* *Gr3 p=.055, ES= 0.854.* Visual Features Gr.2 p= .266, ES=0.339 Gr.3 p=.013, ES=1.84 Procedural Writing Holistic Gr.2 p=.452, ES=.215 Gr.3 p=.654, ES= 0.293 Informational Reading Comprehension Gr.2 p= .042, ES=0.703 Gr.3 p= .045**,** ES=0.912

Study	**Treatment**	**Process Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of study**	**Control (R= Randomly Assigned)**	**Statistical Significance / Effect Size (ES)**
Tracy & Headley (2013)	Non-Fiction Focussed Writing Workshop; Mini Lessons, Daily Writing, Process And Product, Student Topic Choice, Collaborative Writing, Explicit Connection Between Reading And Writing, Genres, Model Texts	'Focus On Process'	Full Range Mainstream	4	N= 18	Daily 5 ½ Months	None	Post Significantly Higher Than Pre: *Writing* Content, Structure, Stance, Sent. Fluency, Conventions P <.05; Diction, Word Count P <.001 *Reading* Independent Level, Instructional Level, Frustration Levels P <.001

Study	Treatment	Process Elements	Sample Characteristics	Grade	Group Size	Length of Study	Control (R= Randomly Assigned)	Statistical Significance / Effect Size (ES)
Zhang (2001)	Effects Of Allowing Prewriting, Drafting And Revision In A Large Scale Writing Assessment	Prewriting Draft Revise ('Second Draft')	Information Not Specifically Given; Implies Mainstream	3,5,8, 10	Gr.3=113 Gr.5 =117 Gr.8=129 Gr10=116 N=475	N.A.	None	*Essays Showing Minimal Or Above Improvement In Second Draft* Gr.3=43%, Gr.5=31%,Gr.8=27% Gr.10=35%,Overall= 34% *Essays Showing Quality Improvement* Gr.3=10 %,Gr.5=5%,Gr.8=6% Gr.10=4%,Overall= 9% *Correlation Between Total Changes Made And Improvement Of Essays* Gr.3 R= 0.43,Gr. R= 0.51, Gr.8 R= 0.36, Gr.10 R= 0.44. *Correlations Between Improvement And Types Of Changes Made* (Gr. 3,5,8,10) Appearance R= .04, .00, -.16,.03 Surface R=.17,.03,-.17,.21 Lexical R=.20,.14,.05,.15 Phrase R=.25,.22,.17,.26, Clause R=.32,.33,.19,.32 Sentence R=.44,.35,.50,.28 Multi-Sentence R=.13,.49,.50,.42 Text R=.07,.63,.35,.09 *Used Prewriting But Showed No Improvement (%)* Gr.3=43.3,Gr.5=68.3, Gr.8=72.8,Gr.10=63.7,Overall=62.5

3.4 Self-Regulation and Self-Efficacy

3.4.1 Definitions

All the studies below investigated enhancing writing strategy instruction effectiveness through the development of self-regulation. Self-regulation has been described as, 'processes that activate and sustain cognitions, behaviours and affects, and that are orientated toward goal attainment' (p.195, Schunk and Zimmerman, 1997). Through assessing, comparing present performance with one's goal and then responding accordingly, progress towards a goal is maintained.

The belief that progress is being made, combined with the anticipated satisfaction of achieving a goal, increases motivation and feelings of self-efficacy (Schunk, 1994). Self-efficacy has been defined as, 'personal beliefs about one's capabilities to learn or perform skills at designated levels' (p.3, Schunk, 1994). High self-belief is associated with higher motivation, task persistence and subsequent achievement; which increases feelings of self-efficacy yet more. Not all the studies examined self-efficacy directly (see table 3.4, p.63 for further details).

3.4.2 Process Goals and Product Goals

Schunk and Swartz (1991, 1993) examined the use of process (learning) goals with comparison to product (performance) goals (see table 3.4, p.63). In the 1993 paper they reported the 1991 grade 5 study again, which they had repeated in grade 4 with a maintenance measure. They reasoned that product goals focus attention on task completion but not processes and strategies and so would be less effective (Schunk, 1994). Similarly, product goals would encourage comparison with peers' rather than the pupil's own prior performance which would lead to lower feelings of self-efficacy; reducing performance. Providing *process* goals and feedback was expected to increase feelings of self-efficacy, by demonstrating progress and suggesting that pupils are competent.

The teachers used an approach involving first modelling, then guided practice then individual work. The results bore out these assumptions.

For grade 5 students, process goal plus feedback outperformed the other conditions for every measure, including self-efficacy, writing skill and perceived progress (see table 3.4, p.63). They also found significant differences in self-efficacy between treatments after work on three of four different paragraph types. Perhaps, the students were already quite familiar with that form or it may have related to being the first area of study. It's clear that self-efficacy increased as the children learnt more writing strategies and increased most for those in the process goal plus feedback condition. The general goal instruction for the control was, 'While you're working, try to do your best' (p.13, Schunk et al., 1993). These children showed significant writing improvement but not to the same extent or significance as the other treatments. With the grade 4 students, process goal plus feedback led to significantly greater gains for self-efficacy and writing skill and this was evident six weeks later.

3.4.3. Self-Regulated Strategy Development

Many studies included Self-Regulated Strategy Development (SRSD) (see table 3.4, p.63). Reference to Harris and Graham (2009) is helpful at this juncture. They enunciated the goals of SRSD as developing student knowledge about writing and skills in planning, writing, revising and editing; student abilities to monitor and manage their own writing and positive attitudes about writing. They went on to note: 'A critical and explicit goal in SRSD is the development of self-efficacy and attributions for effort and strategy use…' (p.120). They reported the five critical characteristics of SRSD instruction as being: the explicit teaching of knowledge and strategies (including self-regulation); the active collaboration of students with each other and the teacher; the individualisation of instruction; the use of criterion rather than timed based progression; the notion of an on-going process where new strategies are introduced. The strategies are supported by mnemonics and graphic organisers and the children are encouraged to set progress goals and to monitor themselves.

De La Paz (2005) considered grade 8 students (see table 3.4, p.63). Her intervention included using SRSD to teach historical reasoning skills and how to plan and compose argumentative essays. Brainstorming, planning and the use of structures supported by mnemonics along with some opportunities for collaboration led to significant, large improvements in productivity and persuasive quality compared with a control group. A medium effect on historical accuracy was seen. The collaborative aspect was quite

limited: they discussed source documents together and while writing their own written plan before writing their essays independently (personal correspondence, S. De La Paz, 23rd November 2015). A limitation was that the control group did not spend an equivalent amount of time on reading and writing about primary historical materials. Of more significance was the fact that the treatment group had to be able to plan and write a four paragraph essay before being included in the results, as SRSD is a criterion-based rather than time-based programme and this would ensure they had completed the intervention in order to be compared with the control: twelve students were excluded on this basis. Nevertheless, one can conclude that some students certainly benefit from these approaches although the long term impact is unclear.

Harris, Lane, Graham, Driscoll, Sandmel, Brindle, Schatschneider (2012) and Harris, Lane, Driscoll, Graham, Wilson, Sandmel, Brindle, Schatschneider (2012) used SRSD with grade 2 and 3 students, the youngest age groups in these studies (see table 3.4, p.63). They did not use controls, rather setting two different writing tasks as the experimental conditions, Opinion Essays and Story Writing, with relevant strategies for each group. They looked at the improvement in performance of the respective genres using the other treatment as the control.

Harris, Lane, Graham, et al. (2012) emphasised results at the instructor level, that is with data grouped by class rooms, and statistical significance was only reported at this level. The only statistical significance achieved by the Story Writing group was the number of story elements found, which had a large effect size. They suggested time constraints had prevented some students being taught all the relevant skills and knowledge. A large effect was found for story writing quality but the difference was not statistically significant. However, students in the Story Writing group did show a large increase in story elements over time relative to their starting points (ES=1.82). By contrast, students in the Opinion Essay group were significantly better in this genre after intervention than students in the Story Writing group for writing elements, quality and use of transition words. Word counts dropped under both conditions, but that could reflect a focus on content. Effect sizes at student level were provided but without the statistical significance and they were not discussed in the article. These effects were markedly lower, although still respectable, which may reflect a degree of heterogeneity

in the participants or the teachers. No reason for the omission of statistical information was proffered by the authors. Maintenance was not assessed.

Harris, Lane, Driscoll et al.(2012) omitted children who were in receipt of special education services then identified children with 'behavioural challenges'(BC) from those which remained. Their exclusion criterion must have meant that some children with more pronounced difficulties were not included. They countered this with the argument that children with such difficulties are generally not identified until grade 5. This is not made explicit in the abstract. Moreover, the assessment tool had 'low academic achievement' (p.168) as one of the scale items; confounding variables. The participants were distributed between the two treatments of Story Writing and Opinion Essays. They found significant differences between the two conditions for elements and quality for both treatments. Students in the Opinion Essay group also using significantly more transition words. BC students in the Story Writing group wrote statistically poorer quality stories but this was not true for the Opinion Essay group. In fact, there were few differences between the BC students and their peers. One can conclude that SRSD can be used in grades 2 and 3 and that mainstream children benefit from both opinion and story writing teaching in this manner.

The remaining studies were not delivered in English, yet the results were similar. De La Paz (1999) (see table 3.4, p.63) innovatively added a small group, collaborative element to instruction, with students working on a single piece of writing together. They also gave each other feedback when working individually. Absolute improvements in writing quality, number of essay elements, and essay length were evident overall and for writers of differing writing ability. Writing ability had been assessed with a standardised test yet pre-test differences did not seem particularly large. This may say something about the validity of standardised tests. The study had no control and no analytical statistics were applied. Percentage non-overlapping data points could have been considered. The size of the changes in such a small period suggests the intervention had an impact. Maintenance was not assessed.

In a better constructed study, Glaser and Brunstein (2007) neatly examined the effects of an SRSD analogue (in German) with SRSD with self-regulation elements removed versus a control with elementary pupils (see table 3.4, p.63). These elements they

considered to be: self-monitoring of planning; self-assessment of writing; self-monitoring of revision; criterion setting and procedural goals. They considered writing product and strategy use outcomes with grade 4 students who were to write stories. They used a control, although they delivered SRSD to small groups rather than classes. It would be reasonable to assume that the effects seen in a full class would be similar but not quite as large. Statistically significant differences were seen between the conditions on a broad range of measures at post and maintenance. Children taught strategy only had significantly improved strategy knowledge at maintenance but alarmingly no effect on story quality compared to controls. SRSD students also had significantly improved strategy knowledge but more importantly, wrote better quality stories, with better story grammar, that is more coherence and style. At post they made better plans *but not at maintenance.* They did continue to make significantly more revisions to their text however, and their improved writing knowledge seemed to have led to better listening comprehension skills (story recall after hearing). The authors noted that self-regulation strategies did not naturally evolve in those students who were in the strategy only condition.

In the 2011 study, comparing SRSD with strategy only, they found a significant, large effect size on story quality remained at maintenance. Similar differences were found for writing knowledge, text revisions, writing self-efficacy (as predicted) and, unlike the earlier study, for story planning. Perhaps they altered their instruction as a consequence? Writing knowledge, planning and revision were moderately correlated with story quality and self-efficacy weakly so. Brunstein and Glaser examined different models of how these variables might work together. Self-regulation had an influence on planning and revision and student's knowledge and feelings of self-efficacy which in turn led to better writing. They acknowledged there may be additional variables involved.

3.4.4. Cognitive Self-Regulation Instruction

Torrance, Fidalgo, Garcia (2007) looked at strategy-focussed writing instruction, including self-regulation elements in an approach, Cognitive Self-Regulation Instruction (CSRI) (see table 3.4, p.63). They used the term CSRI "to indicate a general approach to writing instruction that would embrace SRSD and other interventions that aim to

develop independent mastery and use of cognitive strategies." (Torrance et al., 2007, p.269). An important similarity with SRSD was that CSRI "aimed at a progression from delivering declarative knowledge about a particular skill or procedure, through teacher modelling and collaborative practice, to a point where students have achieved procedural mastery and are therefore capable of independently applying strategies to their own writing." (p.269). Differences from SRSD were noted in that they used more extensive emulation of writing processes without teacher oversight, both with peers and as homework. They compared this with regular teaching in Spain. Students were taught how to plan, draft and revise their texts through a combination of direct teaching, modelling by the teacher and independent work. When modelling, the teachers would articulate what they were thinking, thereby including a metacognitive element. They were also naturally providing and explaining the features of good writing. Rather than rely on examination of planning sheets and texts they used writing logs. A tone was produced at time intervals (mean 90 seconds) and a tally kept of the type of activity being undertaken. They found statistically significant differences at 12 week maintenance in not only writing quality but also coherence, structure and outlining (planning). The writing logs showed significant differences at maintenance in thinking about content, outlining, writing (the act of), revision and time on task.

Fidalgo, Torrance, Garcia (2008) revisited these students to look at maintenance (see table 3.4, p.63). *Two years later* the students who had had the intervention showed statistically significantly better writing quality, coherence and structure. Differences in word counts were not significant. The experimental group were significantly more likely to include an introduction and use reformulation (summarisation or reiteration of a point in a different form) and meta-structural ties (signposts in the text, such as 'Next, I will describe…') which demonstrate an awareness of the reader. Looking at the behaviours of the students they found that the experimental group spent significantly more time on planning ($p<.001$) yet planning was not a significant predictor of quality ($p=.07$) by itself. This was in line with Brunstein and Glaser's notion of variables working together (2011). There were no differences in the amount of time spent revising, despite revision being associated with better quality ($p=.02$). This suggests the approach should have more opportunities for developing this skill and/or the motivation to use it. It is remarkable to see effects so long after an intervention although it should

be noted that no baselines were used for the controls. This is offset somewhat by the relatively large numbers.

3.4.5 Self-regulation and Self-efficacy Summary

The studies above showed that in grades 2-8, self-regulation and self-efficacy development alongside writing strategy instruction through SRSD or similar techniques led to better writing outcomes in students. Essential to self-regulation is the use of goals. By judging their progress students can respond accordingly and steer a way towards better writing outcomes. This feeling of progress leads to greater self-efficacy, as was seen in sharp relief when students learnt how to write new types of paragraph (Schunk et al., 1991). In turn, high self-efficacy is associated with increased motivation, persistence and achievement (Schunk, 1994). The task of judging progress can be simplified through the use of process goals, rather than product goals, resulting in greater impacts (Schunk et al., 1991, 1993). This has the advantage of focussing attention more on strategies and processes and on individual progress rather than comparison with peers. Brunstein and Glaser's research (2011) demonstrated that the addition of self-regulation to writing strategy interventions led to significant increases not only in self-efficacy but also writing knowledge, planning, revision and story quality at maintenance. They provided a plausible model whereby self-regulation improved planning, revision, writing knowledge and feelings of self-efficacy which led to better writing. The effects were evidenced by Fidalgo et al. (2008), which also included peer and teacher feedback, in measures taken two years later, with students producing writing of better quality, coherence, structure and awareness of the reader. Students spent more time planning but it was revision which was associated with better writing outcomes. Students had continued to revise their work at 12 weeks maintenance but not 2 years on. This suggests that the skills should be revisited. The effects on word count varied throughout the studies so it cannot be used as a proxy for quality.

An important aspect of teaching self-regulation which was common throughout was the use of teacher modelling. Teachers verbalising their thoughts enabled students to see an invisible process. Guided practice or collaborative practice supported this new skill and allowed feedback to be received and modelling to continue. Schunk and Swartz (1991, 1993) demonstrated that the addition of feedback to the use of process goals resulted in

the best outcomes. In time this feedback becomes an internal process and students are able to perform independently. Graphic organisers and mnemonics can help students remember both process goals and elements of self-regulation. These principles should not only be applied to the teaching of writing.

Table 3.4 List of Self-regulation/Self-Efficacy Studies with Features and Effect Size and/or Statistical Significance Where Appropriate.

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Brunstein & Glaser (2011)	Strategy Instruction With Self-Regulation Vs Strategy Instruction Both Delivered To Groups Of 4-6. *In Germany In German*	Self-Monitoring Of Planning; Self-Monitoring Of Revision Activities; Setting Of Strategy And Outcome Related Goals; Self-Evaluation Of Strategy Use And Writing Performance	Mainstream	4	Exp=58 Con=59 N= 117	5 Week Intervention Plus 6 week maintenance	Strategy Only R	Effect Sizes: Post-test / Maintenance Writing Self-Efficacy 1.08 / 0.81 Writing Knowledge 0.93 / 0.65 Story Plans 1.16 / 1.15 Text Revisions 0.77 / 0.75 Story Quality 0.85 / 0.87 *For All The Above p<.001* Correlations With Story Quality Post-test / Maintenance Writing Self-Efficacy .31 / .27 Writing Knowledge .37 / .48 Story Plans .59 / .55 Text Revisions .44 / .54 *For All The Above p<.01*

Study	Treatment	Self-Efficacy/ Self-Regulation Elements	Sample Characteristics	Grade	Group Size	Length of Study	Control R= Randomly Assigned	Statistical Significance / Effect Size (ES) Where Available
De La Paz (1999)	Self-Regulated Strategy Development (SRSD) in Regular Education Setting. Addition of a collaborative writing stage, first whole class then in groups. Focus on Expository Essays. Mnemonics. Modelling.	Process and Product Goal Setting	Learning Disabled (LD) And Low, Average and High Writing Achievers	7-8	LD= 6 Low =6 Average= 6 High Achieving = 4 N= 22	4 weeks plus 4 weeks maintenance	None	Baseline Post-instruction Maint. LD Length 70.6 176.6 147.8 Elements 8.3 23.0 21.0 Quality 1.9 4.7 4.5 Low Achieving Writers Length 105.6 220.8 233.3 Elements 13.0 26.8 33.8 Quality 2.6 5.1 6.0 Average Achieving Writers Length 108.8 220.9 233.3 Elements 10.8 28.3 23.8 Quality 2.5 5.7 5.3 High Achieving Writers Length 96.2 206.4 205.0 Elements 11.3 28.7 30.5 Quality 2.7 5.8 6.5

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
De La Paz (2005)	Historical Reasoning and Argumentative Writing Instruction Through SRSD; Discussions and Some Collaborative Planning; Study Model and Structure of Argumentative Essay; Graphic Organiser, Prewriting; Mnemonics.	Brainstorm, Plan,	Students With Disabilities, Average Students And Talented Writers.	8	Exp = 70 (Dis. = 12, Ave. = 39 Tal=19) Con= 63 (Dis=0 Ave. =46 Tal=17) N= 133	Hist. Reasoning = 12 days Arg. Writing =10 days	Topic Journals *Not stated how allocated*	Productivity ES = 1.23, p= .000 Persuasive quality ES= 1.19, p=.000 Historical accuracy ES= 0.57
Fidalgo, Torrance, Garcia (2008)	Strategy Focused Writing Instruction Including Peer And Teacher Feedback, Thinking Aloud, Mnemonics, Plan, Draft, Revise. *In Spain In Spanish*	Goal setting; Self-Regulatory Statements, Self-Monitoring Of Planning, Drafting and Revising	Mainstream Without Diagnosed General Or Specific Learning Disabilities Control Group From Different Primary Schools	8	Exp= 58 Con= 21 N= 79	10 weeks intervention plus 28 month post assessments	No Intervention But Likely To Include Genre And Teacher Feedback	28 Months Post: *Writing Logs* Time Planning (*P*<.001) *Written Products* Quality *P*<.05, Coherence *P*<.005, Structure *P*<.05, Reformulation Ties *P*<.05, Meta-structural Ties *P*<.005, Introduction *P*=.02

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Glaser and Brunstein (2007)	Strategy Instruction With Self-Regulation Vs Strategy Instruction Vs Traditional Writing Instruction Both Experimental Conditions Delivered To Groups Of 4-6. *In Germany In German*	Self-Monitoring Of Planning; Self-Assessment of Writing Performance ; Self-Monitoring of Revision Activities; Criterion Setting and Procedural Goals.	Mainstream	4	Exp 1= 41 Exp 2= 34 Con =38 N=113	4 week intervention; 5 week maintenance	Traditional Writing Instruction R	*Condition Effect* Post: Strategy Related (SR) Knowledge, SR Planning, SR Revisions; Story Grammar, Story Quality *ps*<.001 Story Recall (Listening Comp.) *p*<.01 Maintenance: SR Knowledge And SR Revisions; Story Grammar, Story Quality *p*<.001 Story Recall *p*<.01 *Effect Sizes* (NS Not Given) Strategy Only Vs Control Post-test Maintenance SR Knowledge 3.34 3.02 Story Grammar 0.93 Strategy Plus Self-Regulation Vs Control Post-test Maintenance SR Knowledge 4.48 3.75 SR Planning 0.65 SR Revisions 0.95 1.22 Story Grammar 2.35 2.45 Story Quality 1.45 1.81 Story Recall 1.04 0.64 Strategy Plus Self Reg. Vs Strategy Only SR Planning 0.88 SR Revisions 0.77 0.61 Story Grammar 1.59 2.35 Story Quality 0.97 1.17 Story Recall 1.09 0.67

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Harris, Lane, Driscoll, Graham, Wilson, Sandmel, Brindle, Schatschneider (2012)	Self-Regulated Strategy Development (SRSD) Including Mnemonics And Graphic Organisers Plus Story (Exp. 1) Or Opinion Strategies (Exp.2)	Goal Setting, Self-Instruction, Self-Monitoring, Self-Reinforcement, Problem Solving, Coping	Mainstream Without Special Education Children With Behavioural Challenges (BC) Writing Matched to Typical Peers (Typ.)	2-3	Exp 1= 23 (BC= 12, Typ. =11) Exp 2 =33 (BC= 16, Typ. =17) N=56	Maximum 8 Weeks Treatment	Two Exp. Conditions Only R	*Story Writing* Intervention (Story Vs Opinion): Elements *p<.05*,ES=0.78; Quality *p<.05* ES=.51 Student (BC Vs Typ) Quality *p<.05* ES=.56 *Opinion Writing* Intervention (Opinion Vs Story): Elements *p<.05* ,ES= .54; Quality *p<.0001*,ES=1.98; Transition Words *p<.0001* Intervention x Student Transition Words *p<.01*, ES=1.31 *Effect Of Cognitive Ability* Story BC Words Written *p=.0110 (R2=49%)* Opinion Typ. Elements *p=.0162 (R2=33%)*
Harris, Lane, Graham, Driscoll, Sandmel, Brindle, Schatschneider (2012)	Self-Regulated Strategy Development (SRSD) Including Mnemonics And Graphic Organisers Plus Story (Exp. 1) Or Opinion Strategies (Exp.2)	Goal Setting, Self-Instruction, Self-Monitoring, Self-Reinforcement, Problem Solving, Coping	Mainstream *Including* Those Receiving Special Education Services	2-3	Exp1=113 Exp2=149 N=262	Maximum 8 Weeks Treatment	Two Exp. Conditions Only R	*Performance Of Students By Class At Instructor Level (N=20)* *Story Writing* Elements *p=.03*, ES=.1.09, Quality ES= .77, Word Count ES=-.13, Transition Words ES= -.64 *Story Writing Condition Only Effect On Story Writing* Elements *ES=1.82* *Opinion Essays* Elements *p=.0005*, ES=2.02, Quality *p<.0001*, ES= 4.00, Word Count ES=-.28, Transition Words *p<.0001* ES= 3.78 *Student Level Performance (N=262)* *Story Writing* Elements ES=.50, Quality ES= .27, Word Count ES=-.07, Transition Words ES= -.25 *Opinion Essays* Elements ES=.70, Quality ES= 1.84, Word Count ES=-.08, Transition Words ES= 1.55

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Schunk And Swartz (1991)	Writing Strategy Instruction Plus Process Goal Vs Process Goal Plus Process Feedback Vs Product Goal	Process Goals, Process Feedback, Product Goals	Mainstream; No Problems Understanding Oral Instructions	5	Exp1 =15 Exp2 =15 Exp3 =15 Con= 15 N=60	20 days	General Goal R	Treatment *p<.001,* Self-Efficacy *p<.001,* Writing Skill *p<.001,*Word Count *p<.001* Perceived Progress *p<.001* Goal Perceptions *p<.01;* *Process Goal:* Self Efficacy *p<.001* Writing Skill *p<.001* *Process Goal Plus Feedback:* Self Efficacy *p<.001* Writing Skill *p<.001* Word Count (More) *p<.001;* *Product Goal:* Self Efficacy *p<.05* Writing Skill *p<.001* *Control:*Writing Skill (Improved)*p<.05* Word Count *p<.05 (Fewer)* Comparisons *Self-Efficacy*: Process Goal Plus Feedback Higher Than Product Goal And Control (*ps<.01);*Process Goal Higher Than Control (*p<.01);Writing*: All Exps. Higher Than Control (*p<.01,* Except Product Goal *p<.05;*Process Goal, Process Goal Plus Feedback Both Higher Than Product Goal *p<.01;Word Count*: Process Goal Plus Feedback More Words Than Other Conditions (*ps<.01)*; Process Goal More Words Than Control (*p<.01);Perceived Progress*: Process Goal Plus Feedback Judged Higher Than Product Goal Or Control (*ps<.01);Goal Perceptions*: Product Goal Emphasised Paragraphs More Than Process Goal (*p<.05);* Process Goal, Process Goal Plus Feedback Emphasised Steps More Than Product Goal (*p<.01)* and Control Students (*p<.05)* Self-Efficacy 4 Paragraphs Descriptive n.s.; Informative, Narrative Story, Narrative Descriptive *ps<.001;*

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Schunk And Swartz (1993)	*Study As Schunk And Swartz (1991) Reported Alongside New Study.* Writing Strategy Instruction Plus Process Goal Vs Process Goal Plus Process Feedback Vs Product Goal	Process Goals, Process Feedback, Product Goals	Mainstream; No Problems Understanding Oral Instructions	4	Exp1 =10 Exp2 =10 Exp3 =10 Con= 10 N=40	20 days plus 6 week maintenance	General Goal R	Treatment, Self-Efficacy, Writing Skill, Words per T-Unit, *(*Post and Maintenance, *ps<.05)* (Remainder not tested at Maintenance) (Perceived)Progress, Strategy Value *ps<.05* Strategy Use *p<.05* *Self-Efficacy For Skill Improvement* Narrative Story, Narrative Descriptive (*p<.05)* Think Aloud (Verbalisation Of Steps) *p<.05* <u>Comparisons</u> Process Goal Plus Feedback Out Performed Other Conditions On Every Measure Post And Where Applicable Maint., Except For Words Per T-Unit in Think Aloud Phase When (Was Same As Process Goal).

Study	**Treatment**	**Self-Efficacy/ Self-Regulation Elements**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Torrance, Fidalgo, Garcia (2007)	Strategy Focused Writing Instruction Including Peer And Teacher Feedback, Thinking Aloud, Mnemonics, Plan, Draft, Revise. *In Spain In Spanish*	Goal-setting, Self-Regulatory Statements, Self-Monitoring Of Planning, Drafting and Revising	Mainstream Without Diagnosed General Or Specific Learning Disabilities	6	Exp= 71 Con=24 N=95	10 week intervention plus 12 week maintenance	Genre And Teacher Feedback	*Writing Logs* Post. Maint. (N=22) Thinking About Content p=.001 ES=2.04 p=.043 ES=1.21 Outline (Plan) p<.001 ES=2.57 p=.002 ES=4.26 Writing Text p<.001 ES=.78 p<.001 ES=3.34 Reading Text(Revise) p=.009 ES=1.4 p<.05 Not Given Time On Task p<.001 ES= 4.07 p<.001 ES=4.33 *Transfer At Maintenance* To Opinion Essays: Outline (Planning) p=.001 Quality p<.001 Coherence p<.001 Structure p<.001 To Cause and Effect Essays: Outline (Planning) p<.001 Quality p<.001 Coherence p<.001 Structure p<.001 'Substantial and Significant Effect' on Writing Time and Time On Task Reported For Both. 'Statistically Significant Increases In Use of Structural And Meta-structural Ties' Reported For Both. *Written Products* Post. Maint. (N=22) Quality p<.001 p<.001 Coherence p<.001 p<.001 Structure p<.001 p<.001 Word Count p=.01 Paragraph Count p<.001 p<.001 Anaphoric Ties p<.001 p=.01 Reformulation Ties p<.001 p=.04 Structural Ties p=.003 p=.12 Meta-structural Ties p<.001 p<.001

3.5 Collaborative and Cooperative Learning Approaches

3.5.1. Definitions

Distinguishing between collaborative and cooperative learning has been described as an 'elusive goal' (p.3, Panitz, 1999) and the terms are often used interchangeably (Markulis and Strang, 2002). There are, however, differences both in terms of practices and purposes.

Both approaches involve working together on a common learning task. However, cooperative learning is a '*teacher-structured*, systematic instructional approach' (p.6, Rose, 2002, italics added). The task is divided up and students are assigned roles. The ultimate aim is the transmission of knowledge (Markulis et al., 2002).

By contrast, during collaborative learning students within the groups direct their own education (Rose, 2002), It has been described as 'a philosophy of interaction' (p.3, Panitz, 1999), the aim of which is to construct a common meaning, or consensus, through dialogue (Rose, 2002). Knowledge is discovered, constructed and transformed by the students together (Markulis et al., 2002) and is not prescribed beforehand.

Panitz (1999) proposed placing the two terms on a continuum from a teacher –centred system to a student-centred system. A key dimension for him was the degree of authority exercised by the teacher and the learner. He believed that for the learning of basic knowledge, which was more or less agreed upon, such as mathematics procedures and correct spelling and grammar, teacher-centred approaches were more appropriate. However, the focus of this study is upon writing quality. Bruffee noted that, '…writing of all kinds is internalized social talk made public and social again. If thought is internalized conversation, then writing is internalized conversation re-externalised' (p.90, 1984). If thought is indeed a conversation then dialogue, be it internal or external, is essential to the process of writing and this would suggest more student-centred approaches might be more effective. Nonetheless, students in collaborative conditions may actually cooperate instead, that is, emphasise division of labour rather than discussion (Akella, 2012) and logically the converse may also be true to some extent. Peer tutoring could be viewed as more teacher-centred when tasks and partners are assigned but those dyads may in fact be more discursive in practice. One could

imagine this would be more likely where the peers have similar levels of attainment. The degree of cooperation versus collaboration then has to be taken to some extent on face value. Panitz (1999) saw movement along the teacher-centred /student-centred continuum over time for students, noting that the once proposed distinction between cooperative approaches for younger and collaborative approaches for older students (Bruffee, 1995) is now blurred as the two approaches are mixed at all levels.

3.5.2 Collaborative and Co-operative Learning Approaches Studies

Four of the six studies reviewed were not conducted in English. Nonetheless, it was how the children worked together that was examined and so valuable lessons can still be learned.

The effects of the *Jigsaw III technique* on written expression in a Turkish primary school were examined by Sahin (2011). The technique is one of six similar 'Jigsaw' techniques. They all have the notion of a 'puzzle' being solved by the group as a whole, with each member having a distinct piece of information to offer. The subject matter is divided by the number of participants per group. It is believed to develop learning, cognitive and social skills. The rationale is that the students support each other's learning and extend social skills through the group work process. By working together they are able to keep a wider range of considerations in mind at once.

In this case, two six grade classes of 35 students were chosen at random, one as the experimental condition, one as the control. The control covered the same topics but students were taught in a traditional, teacher-centred teaching method. Both were taught for five hours per week for six weeks. Children in the experimental condition were placed in groups ensuring a mix of different grade point average scores, sex and socioeconomic status. Within each of the six groups, each member was assigned one of six areas to become an expert in. For the first two weeks the process was explained, pre-tests given and written materials worked through. In the third and fourth weeks students left their home groups to go to work with other class members who had been assigned the same area of study. They studied the same subject together and prepared to teach the rest of their original groups in week five. In week six one person selected at random talked to the other groups about his subject, i.e. addressed the whole class. A measure

of writing skill had been piloted on 150 six grade students, based on the 'Achievement Test in Turkish Course' and this was administered pre and post-test and six weeks later.

Both conditions showed an improvement in written expression. However, the Jigsaw III co-operative learning condition was shown to have made a statistically significant larger increase, as assessed using the ATTC, (P>.001). This difference was largely maintained six weeks later (P>.003). Both groups showed a reduction in written expression six weeks after the intervention, although they remained above the initial assessment.

Comparing the absolute increases in written expression after six weeks with baseline it could be seen that the Jigsaw III technique led to almost double the gains of the teacher-led instruction, (1.7 vs 0.89). Surprisingly, this was not referred to in the article.

The gains were statistically significant when comparing the Jigsaw III technique with the teacher-led condition. The effect size was not given. Calculating the effect size revealed it had had a large impact (ES=0.86). It would have been useful to know how well different areas of written expression that were taught under both conditions were learnt by the students. Great pains were taken to allocate children of different writing skill level to both groups and it was assumed that children at all levels would benefit from co-operative approaches. Yet this was not explored in the results section. It would have been informative to consider how children with different writing skill levels responded to the different conditions; given that they had already been identified as it was only assumed that they all benefited equally.

Durukan (2011) examined the effectiveness of the *Cooperative Integrated Reading and Composition* (CIRC) technique on reading-writing skills. Durukan defined cooperative learning as, 'a learning approach in which small, mixed student groups form both in-the-class and out-of-the class environments to ensure that students help each other in learning an academic subject in the scope of a common goal; where their self-esteem increases and their communication, problem –solving and critical thinking skills develop; and where they actively participate in the teaching-learning process' (p 103). The skills he describes suggested he considered there to be some aspects of collaboration involved within this very teacher-structured approach. Cooperative integrated reading and composition technique (CIRC) is intended to develop reading,

writing and language skills in upper primary. Reading groups are established first and students paired off within those groups, i.e. the students are at similar reading skill levels. This might help collaboration. They help each other while responding to teacher-given activities to develop literacy. Groups are rewarded on the basis of the performance of all group members.

The study was completed using 45 7th grade students in Turkey. They were randomly assigned to experimental and control groups; 24 were in the experimental group. The experimental group participants were placed into further groups of six, comprising of two each of 'successful', 'unsuccessful' and 'improving' students, based upon school reports, i.e. mixed ability. Account was taken of gender, interests, skills, age and 'culture' but not socioeconomic status. The programme ran for two hours per week for five weeks. The first two weeks were used to perform pre-test assessments, introduce the programme and practise group work. In week three pairs in each group were given different texts to read, it is not made clear how these pairs were comprised. They then read the texts of the other pairs in their group. The researcher gave feedback to the oral readings and two questions were asked of the whole group. Their answers were displayed. In week four writing became the focus. Groups copied sentences off the board and their work was checked by a teacher. A scribe from each group recorded their answers on the board. Other groups were encouraged to evaluate other groups' work. In week five the scores were collated, presumably there were some more learning opportunities. Reading and writing attainments were assessed pre, post-test and four weeks after the programme using tools developed from exam questions and piloted previously.

The focus for this literature review is writing but it is worth noting that the mean scores for both writing and reading increased and although this reduced after four weeks a gain remained following both traditional and CIRC teaching. However, students taught using CIRC made significantly more progress and retained more of this progress for both skills ($p<.05$). Given that the actual time spent on skill development was four to six hours it could be seen as a testament to the utility of the intervention that such results were seen. An effect size was not provided but calculation showed the impact was large (ES=0.81). The approach retained quite a high degree of teacher involvement and the competitive element may not have suited all of the students. No attempt was made to secure the views of the students on the intervention or to evaluate effects on

areas such as self-esteem, problem-solving, critical thinking skills despite claiming that the approach benefited them. Two of the groups did not perform as well in the lessons as their rivals; one wonders what effect that may have had on them. There was also a source of potential bias, unwitting or otherwise, in that the researcher taught both conditions. It is assumed that all the students benefited from this approach, yet despite having arbitrarily categorised the children in terms of literacy skills the datum was not analysed in these terms afterwards.

Paquette explored the use of *cross-age tutoring using a 6+1 Writing Traits Model* in the United States (2008). Her rationale was to increase the opportunities for individualised writing instruction for students, as this is associated with better academic outcomes. Cross Age Tutoring is a peer tutorial method by which older students teach younger students. It is reported to benefit the learning of academic skills, the development of social behaviours and classroom discipline and to enhance peer relations. Both tutors and tutees have been seen to benefit from the approach. Paquette reported that this has been thought to be due to tutors using a more familiar language, having more understanding of difficulties because they are cognitively closer and so present information in more digestible forms. They are less threatening than adults and so there is less fear of making mistakes and so a freedom to try things out and ask questions. It also provides an opportunity for one-to-one input. Tutors often benefit more than tutees because materials being learnt are reinforced and they are motivated to use higher order thinking skills as they turn knowledge into lessons for the tutees. They gain a deeper understanding of the information and gain confidence.

The 6+1 Writing Traits Assessments Model is a way of scoring and talking about written work looking at the domains of ideas, organisation, voice, word choice, sentence fluency and conventions (Spandel, 2000). It was already in use in the school selected for the intervention.

Twenty-five fourth grade students and 15 second grade students were placed in the experimental condition. The control was of 25 fourth grade students and 20 second grade students. Fourth grade students were giving training and practice in tutoring before working with their associated second grader. Tutoring was for one hour, once a week for 10 weeks. Tutors kept reflection journals which they used to help plan their next sessions with other tutors and with access to a teacher for 30 minutes prior to each

new session. Areas covered by tutors were passed to teachers of the control students. Paquette acknowledged that she did not know if those teachers went on to actually deliver that content.

Assessments were made pre and post using the 6 +1 traits method, with rater inter-reliability assessed. The traits were used throughout the tutor-tutee lessons to discuss writing samples alongside marking criteria. Questionnaires showed that all participants would be happy to do it again. All second grader participants reported they enjoyed writing more and were better writers now. Most felt they wrote more frequently now. Most fourth grade tutors felt that they were better writers and liked writing more as a consequence of the intervention. Whether they would write more was not mentioned.

There was no statistically significant difference between second graders who completed the programme and those who did not. In fact, those who were on the programme performed slightly less well on average. Fourth graders who were tutors showed a statistically significant improvement in writing compared with those who were not and a notably higher average score post-test. It is not surprising that the tutors gained, for reasons given above. However, the apparent lack of benefit for the tutees was unexpected. Paquette opined that the tutees did not engage with the exit task with enthusiasm and wondered if scores would have been higher if this had been administered by the tutors rather than the class teacher. She also felt the small sample size may have played a role or lack of randomisation. The sample size would also affect the results for the tutors if that was the case, calling into question the whole study. She does not refer to the further possibility that the second graders simply did not show improvements in academic writing skills over this 10 week period. Perhaps they showed gains in other ways, perhaps they needed a longer time period or even, perhaps cross-age tutoring is not so effective at such a young age for writing using the 6 + 1 model. The traits of ideas, organisation, voice, word choice, sentence fluency and conventions may be too abstract for children with such little experiences of literacy. The children enjoyed the programme and showed improved dispositions towards writing. The study raises questions about sample size, other possible permutations of grade levels, and potentially the idea of an intervention being put in place largely to benefit tutors. The second graders views suggested they got something from it and their scores were practically the same as those who did not participate; so no harm was done.

Alfassi (2009) examined the effectiveness of a *Collaborative Dialogic Learning Programme* upon literacy skills compared with traditional teaching. 115 7th grade students in Israel were had been randomly assigned by classes to a control (54) or experimental (64) condition. The classes were further reduced to the size of 15. Cognitive assessment was made using Standard Progressive Matrices once. Literacy assessments were made pre and post the intervention. Reading was assessed using a standardised reading test and a reading comprehension test devised by external specialists. Evaluations were made of the students' writing from responses to a simple prompt at the start and for a short essay post-test using a rubric.

All students had 16 weeks of 90 minute sessions on developing literacy within a language arts lesson. The intervention was based upon socio-cognitive theory, which emphasises the role of social speech in learning. Dialogue allows new understandings to be negotiated amongst participants, hence collaborative in the title. This was facilitated through the Reading to Learn and Writing to Communicate programme, which provided opportunities for students to engage with each other and the teacher. The students were presented with a problem which they had to address collaboratively. In addition, they were taught reciprocal teaching as a way of improving their reading comprehension and supported through a process of research, information sharing and performance of a task, namely each student individually teaching the members of new 'learning groups' which they were consequently placed in. The students worked collaboratively in their original groups to produce the teaching materials required. The learning groups then answered the original problem. This had similarities with the Jigsaw technique above, in that the students were becoming experts in an area. The intervention therefore had both collaborative and cooperative elements. Self-management sheets to prompt process writing techniques were given out at appropriate junctures (planning, text generation and revision). Writing tasks were interwoven through the exercises to which feedback was given by the teacher, peers and the students themselves. The students then amended their individual or collaborative work in light of the feedback. These tasks included making summaries, teaching materials and expositions. The nature of the tasks meant that students were able to work around their zone of proximal development (Vygostky, 1978). The teachers gave voice to their thought processes throughout the intervention and similarly, the children had to explain their views during discussions. In this way a dialogic environment was provided. For the intervention they completed this cycle twice.

Students in the control group worked individually. They were given instruction on reading comprehension, writing summaries, organising texts and the use of connectives. They were given explicit teaching on how to write a research paper. An opportunity was missed for garnering the opinions of the students towards the different approaches.

The control group's reading improved slightly, particularly that measured by standardised tests, over the intervention period but it was not statistically significant. Of course, over an intervention of this length one would expect to see some improvement in reading for most children. Somewhat amazingly writing performance actually fell slightly for those students over the period. Perhaps this reflected standard error or their motivation had been affected in some way. By contrast, the experimental group's writing and standardised reading assessments showed statistically very significant improvements (both $p<.001$). The effect size was not given but calculation revealed it had had a large impact (ES=0.90). Furthermore, leaving debates about the nature of 'intelligence' aside, it transpired that students benefited from the intervention regardless of their cognitive abilities. This supports the theoretical position posited by the author and emphasises its potential use in the classroom. Further testing after a suitable period would have enabled firmer conclusions to be made about how persistent any changes in skills were but unfortunately this was not done.

Alfassi (2009) wondered if larger class sizes would diminish some of the power of the intervention, because there would be fewer opportunities for the teachers to provide scaffolding and feedback. This presumes that it was the teachers' input that was critical; it may not have been. Collaborative/cooperative approaches with larger class sizes have been shown to be effective. This intervention demonstrated the value of approaching improving writing alongside improving reading. Moreover, this could occur outside of the literacy lesson, such as in a History class. Perhaps the title of the article should have reflected the multivariate nature of the intervention; collaborative learning, cooperative learning, reciprocal teaching, process writing in addition to a dialogic environment. It managed to secure improvements without pitching the students against each other which is more in tune with notions of creating a collaborative, non-threatening space for learning.

Li, Chu, Ki and Woo (2012) evaluated the effectiveness of the introduction of a *wiki-based intervention to facilitate collaborative writing*. 59 upper primary pupils, average

age ten, in China were split into mixed ability groups of four. One 'responsible' student from each group was appointed leader by the teacher. The students were given three composition tasks over the intervention. A circular process writing approach, of group pre-writing, group drafting, group revising and group editing was employed. A bespoke 'wiki' was set up for use by the students; a wiki is 'an innovative means of creating, editing, and disseminating information in an online environment, which can be authored collectively' (p.160). It has two main features: a wiki page which is subject to open editing, the history of which is traceable, and a discussion forum where writers explain their changes. For each composition, the teacher explained the task requirements and asked the groups to gather information from books and the internet and then brainstorm what they were going to write together. Then, in the following lesson in the computer suite, they were asked to produce a composition using a process writing approach collaboratively but on separate computers. Competitive rewards were put in place, including one for the students who wrote the most. Students were encouraged to make further changes during their own time after school. The first composition was not assessed but the following two were, using national primary school essay scoring criteria. Questionnaires were given to participants and data from the 'wiki' history analysed.

Data from the first composition was not used presumably because of the difficulties with the IT crashing when two students tried to make changes to the text at the same time. This was resolved by having children work on their revisions separately in Microsoft word before having 10 minute slots on the wiki page. It is hard to see why the children could not have been in smaller groups, say pairs, and worked collaboratively throughout the process.

Students' group writing scores were significantly higher ($p<.05$) on the last composition than on the middle one. However, the construction of the study means it is not clear what led to the improvements and whether they would have improved anyway. There was no control group. Furthermore, the pieces of writing constructed as a group were used as assessment, rather than examining the individual students' change in writing skills. It is likely that some students dominated.

Data from the wiki showed that more students participated, that is were recorded as writing or removing something from the wiki page, on the final composition but it was

still only 39/59 i.e. 66%. Since the students worked more in parallel rather than synchronously in co-operation it cannot be suggested that some made contributions which were not traceable to them because they were oral. Twice as many revisions were made on the final task, perhaps as students gained more confidence.

The questionnaires from the students showed that most students enjoyed the programme, wanted it to continue, and felt more motivated to write. They felt the collaborative element lead to more learning and enjoyed having an audience for their work. 14 of the students were interviewed. All of them identified difficulties around collaboration. This had two themes: disagreements about the writing content and students who were not contributing enough. The authors rightly point out that disagreement about content is actually a mechanism for deepening understanding of their work. Poor contributors may have been poorly motivated but this could also be due to learning difficulties. Most of them also highlighted a danger of open editing being 'naughty' students who sabotaged others' work and voiced concerns at the lack of time given to complete the tasks in class. Nonetheless, 93% of those interviewed reported that there had been benefits to their learning and most felt that the wiki had facilitated group interaction, provided an audience and provided opportunities for looking at others' work.

Despite short comings in the design of the study, the problems with IT and the different language there are things to be learnt from this study. The students enjoyed the use of IT, they liked the opportunities for some collaborative working, albeit limited in its scope, and felt they benefited from it. This indicated that the opportunities for disagreement did lead to deeper understanding as the authors suggested. The students' concerns around some students not contributing or even sabotaging the tasks, along with the data showing a third did not appear to contribute at all is concerning. Pairs rather than groups would allow more students to feel involved, particularly if pairings were chosen carefully. The use of a wiki to track changes would presumably reinforce the importance of editing. The increased number of edits on the final task may be related to this. A benefit of a wiki in the real world is that it allows changes to a text to be made at any time, while changes are tracked and justification has to be given through the discussion page. A lesson is not the same. The children resented being expected to lose their own time, and interestingly, although parents had been encouraged to contribute none did. If the children simply worked together at the same time on the text they

would not have to write down their reasoning, something they may find onerous or threatening. Having documents with dates on could be used to track changes. Wikis seem more appropriate for students who would have difficulties meeting up at the same time, for example when doing assignments at secondary school – when the expectation would be that it is done in their own time- or in higher/further education where geography would play a part.

Yang, Ko and Chung (2005) investigated the impact of *web-based interactive writing environment* on students in grades 1 to 6. The web resource was made available to both secondary and primary but the evaluation focussed on solely the primary students. The reasons for this were not given. Participation was voluntary and 2510 primary students did so. This was from a pool of 257 primary schools, suggesting that take-up was not great – an average of 10 per school- and meaning that although the numbers were high it is unlikely the sample was representative. Moreover, 86% of those participating were from grades 4-6. They reasoned that the use of IT in this way would enable students to review others' work; interact with other students and teachers on discussion boards and so learn from each other; to give and receive feedback (using a rubric) and revise their work more easily; be provided with a means of publishing their work and so increase motivation. They adopted a process writing model and felt the benefits of the intervention on revision skills would be the most important outcomes. Three different writing themes were provided, on the advice of a writing 'expert'. 'Story pass on' was where a story was started by the expert and children could add a paragraph, which would be evaluated and to which another paragraph could be added by a different student. This was constructed in a tree fashion, such that children could add alternative paragraphs and endings. A story ended after four paragraphs. One starter could therefore have many different endings. A degree of collaboration was involved here but paragraphs were produced independently. 'Story Chameleon' was performed individually. The children had to rewrite a well-known story changing different factors, such as settings or characters. 'Thousand Ideas' was again done individually. Children had to write about an everyday problem and propose a solution. Works could be reviewed by themselves, peers or an expert. Good examples were labelled as such for children to learn from. It would not have been difficult to find how often children looked at these examples but this was not examined. A number of competitive ranking boards were put in place, letting students know who had submitted the most pieces of writing, got the most expert and peer favourable reviews, made the most reviewing

comments and most contributions to discussions. An attempt was made to assess improvements in writing by looking at 'early' and 'late' writing submissions. The mechanisms around this are very unclear including how far apart these were. Furthermore, only students who contributed more than once, under certain conditions, were included in the analysis. A 'Get-together Activity' was arranged at the end of the study and 'top' students were rewarded.

With regards to outcomes, no control or standardised measure was used for comparison, so any gains could have happened regardless of the intervention. It is not known what or how the children were being taught in their schools. The length of data collection, *two years*, exacerbates this issue. Naturally not all the children participated for two years, although one did. The potential number of participants was not given, so it is not clear what the take-up rate was. It was stated that around 10 students per school participated and of these only 70% submitted any pieces of writing, thus making the sample ever narrower. Written pieces could be evaluated using the approved rubric by the children themselves, and this happened around 40% of the time, by peers (60%) or by the expert (92%). Peer and expert evaluations showed no statistically significant difference from each other ($p>.05$) and it is possible to say that those 60 % of students who wanted to review their peers work, from a self-selected sample of primary school participants in the study were in line with an expert when provided with a rubric. This suggests that, when a rubric is provided, some students can evaluate the work of their peers reliably. They also found that of those who took the time to do so, self-evaluations were statistically significantly different from the peers and the expert. This is in contrast to the findings of Grisham and Wolsey (2005). Perhaps the competitive aspect had a role to play in this difference. The authors made much of the fact that peers tended to review more of the better than the weaker papers and so were able to make an implicit evaluation before embarking on a review. Given that these are at opposite ends of the performance spectrum this would not be so difficult to do. The authors found that the best writers participated more and they made the mistake of assuming that correlation means causation. It is not inconceivable that the best writers would be more confident and so more motivated to participate. The qualitative information obtained from the Get Together Event is notable in its lack of negative comments.

3.5.3 Summary

Cooperative learning has been described as a teacher-structured instructional approach where the task is divided and students assigned roles (Rose, 2002) with the aim of transmission of knowledge (Markulis et al., 2002) while collaborative learning has been seen as students reaching a consensus through dialogue (Rose, 2002) in order to discover, construct and transform knowledge together (Markulis et al., 2002). Panitz (1999) saw the two being a continuum, with the degree of authority exercised by the students and teacher being the key determinant. This selection of articles demonstrated children supporting each-others' learning at various points on this 'teacher-centred' – 'student-centred' continuum of cooperative/collaborative learning.

Highly teacher-structured, cooperative approaches, such as Jigsaw III and CIRC were shown to have a large, positive impact upon writing skills at both primary and secondary level. Collaborative Dialogic Learning (Alfassi, 2009) was a more mixed approach but also had a large impact. It began with a student-centred, collaborative phase before students left their groups to teach peers in other groups, in a similar way to Jigsaw III. This also improved writing skills and, furthermore, it was shown that children were significantly helped regardless of their relative cognitive abilities. The tasks facilitated children working at their Zone of Proximal Development, that is, where learning can occur with support. Much of this support came from their peers, although the teacher also modelled thinking processes and provided feedback. It is worth noting that CIRC and Collaborative Dialogic Learning combined reading and writing and showed gains in both areas. No studies investigating a yet more student-centred, collaborative approach towards writing were found. It would be useful to know if student benefit from just working collaboratively on a piece of writing.

It was striking that cross- age tutoring benefited the Grade 4 tutors and not the tutees (Paquette, 2008). The authority clearly lay with the older student in this cooperative situation and perhaps this negated the possible benefits for the tutee. Furthermore, they were restricted to accessing the thinking of just one peer rather than a group.
Li et al. (2012) allowed only a small degree of collaboration and found that a third did not contribute at all to the process! Moreover, the study's effectiveness could only really be speculated upon given the poor design. Yang et al. (2005) showed that a rubric could be helpful for peer evaluations.

The most effective studies in this section featured children cooperating in groups and included reading and writing aspects. Alfassi (2009) added a specifically collaborative (student-centred) phase and was able to demonstrate that children with differing cognitive abilities showed significant improvement in their writing skills. Studies on more purely student-centred, collaborative approaches towards writing were not found. However, it may be that combining cooperative and collaborative aspects ensures school-age students have the requisite social and thinking skills to gain from the intervention. There is certainly evidence that the combination works.

3.6 Information Technology

3.6.1 Definitions

The online Oxford English Dictionary defines Information Technology (IT) as, 'The branch of technology concerned with the dissemination, processing, and storage of information, esp. *(especially)* by means of computers' (2014, italics added). The definition is not restricted to computers and the studies below which examined the use of IT to improve writing employed a range of devices (see Table 3.5, p.91). Moreover, IT is, as the European Union High Level Group of Experts on Literacy noted, '… changing the nature, frequency and importance of writing' (p.23, European Commission, 2012). The wide range of digital writing skills required for accessing social networks, texting, participating in the political process and succeeding in the workplace mean that writing, both digital and traditional, is becoming ever more essential.

Technological advances mean the devices used earlier are obsolete; few people now use the term 'Word Processor' (WP). The benefits of using IT have expanded rather than diminished. IT can now connect students to the world via the internet and bridge the divide between home and school. Moreover, Horne, Ferrier, Singleton and Read (2012) found by the age of seventeen 75% of students type faster than they write. This figure is likely to rise. Typing, without accounting for the other benefits of IT (not least editing), is already beneficial for the writing of a significant minority (Horne et al., 2012). Despite the ubiquity of IT relatively few articles were found by the literature search. This suggests the potential for improving writing skills through technology has

not been fully explored. Nevertheless, the use of IT to improve writing in school, in school and home concurrently, and only at home will be examined below.

3.6.2 In School

Snyder (1993) found the use of WPs in Grade 8 writing lessons led to significant improvements in writing quality and text precision compared with controls (see table 3.5, p.91). The students were concurrently taught process writing and the technology made revision less onerous by removing the need to rewrite the entire text. More collaborative learning was evident in the experimental condition. A minor criticism is the use of a limited population, females attending a private school, although at that time few state schools could have provided such facilities. It is not clear whether the effects would be maintained if IT access were to be subsequently unavailable.

More recently, Daniels (2003) examined Word Processor access in Grade 5 and claimed this led to increased motivation and writing quantity (see table 3.5, p.91). The sole evidence was anecdotal observation of his class and a comment from one of the five teachers interviewed. Interestingly, another teacher reported it slowed students down. There was no measure, or indeed expectation, of implementation. Reference in the text was made to improved scores on a state-wide assessment for the school as a whole, but no information about the performance of students in the study pre and post was given. Furthermore, the school had other writing interventions occurring at the same time. This was a poor study.

De Smet, Broekkamp, Brand-Gruwel and Kirschner (2011) considered the immediate impact of the use of a widely available electronic outlining tool in the Netherlands (see table 3.5, p.91). They gave Grade 10 students 15 minutes of instruction and practice before investigating the impact upon a timed writing task. The within-subjects results were subject to the practice effect of doing a timed written task, although they certainly showed a perceived reduction in mental effort required. Students who used the tool for both tasks were compared with those who only used it for the second task. They perceived a benefit in terms of reduction of mental effort on content accuracy even after one use. Using the tool twice, compared to once, led to significantly improved text structure, use of a conclusion and again, a reduction in perceived mental effort on content accuracy. The authors hypothesised that the tool would reduce cognitive load.

This is partially supported since the overall mental effort was not significantly reduced, although the averages did drop, meaning some students directed this spare capacity to other activities. The tool was recommended by 54% of students who had used it twice. Given the statistically significant effect on mental effort this suggests that some benefited more than others. A control which did not use outlining and larger numbers would have been helpful. It would have been interesting to examine subsequent WP writing tasks performed without the tool. The relatively low input required means students should be made aware of this feature, which they could then use if they so wished.

The next three studies used IT with specific software or writing programmes (see table 3.5, p.91). Beck and Fetherston (2003) used WPs and *Story Book Weaver Deluxe* software with seven Grade 3 students for six weeks. The software provided a bank of 1,600 images which they could use in their story. All the children wanted to continue using WPs, finding they could type faster than write and they liked the presentation of the finished product. Three of the seven showed a definite improvement in writing stories *when* using WPs. There were no controls so it is not clear whether it was the WP, the software or the combination which was instrumental. The children all had 'quite good keyboarding skills' (p.153) before starting the programme and this may have had an influence. The effects on subsequent handwritten or WP tasks were not examined. High school students were the subjects for Rowley and Meyer (2003), who evaluated the use of the *Computer Tutor For Writers* process-writing based programme. It was assessed as an intervention, in that the writing assessment was handwritten. A straight forward treatment effect was not given, instead the students were separated *post hoc* into groups based on the amount of time they had spent using the programme. It was not clear what the average amounts of time were and why some students spent longer on the programme than others. Nevertheless, a significant impact was found for those students who spent more than 11 hours on the programme, although this group was only 12% of the total experimental condition.

A ‘Technology Infused’ (p.75) writing programme, which contained a range of digital resources, such as animations, sample notebooks, online activities and the opportunity to publish digitally was examined by Goldenberg, Meade and Midouhas (2011) (see table 3.5, p.91). Unfortunately this study had two major flaws: the ‘pre-test’ measures were taken six weeks into the intervention and so an early gain may have been missed and more importantly, the implementation was very poor. Some teachers cut part of the programme; student access to computers was ‘sporadic’ (p.92) with little time for writing on computers, accessing the internet or interacting with peers electronically and some teachers cut the technology aspect altogether! It is not clear how much IT access the students who showed an improvement had had and so difficult to estimate its contribution.

Martin (2007) investigated the use of Interactive Whiteboards (IWB) alongside the ‘Literacy Hour’ approach from the English erstwhile Department for Education and Employment (see table 3.5, p.91). The latter seemed to place great emphasis on whole-class teaching, which the author did not favour and this consequently coloured her view of IWBs. The children’s persuasive writing showed a considerable net improvement while character descriptions showed a net decrease. It’s not clear why this was but it may have been more to do with the content and pedagogy than the media itself. Summing the two effects resulted in an overall improvement for 25% of the children. The study had no baseline, no control, a wide range of variables, research bias, questionnaire questions which changed and mid-treatment changes in the intervention. However, it is worth noting that most of the children thought that the IWBs helped them pay attention, understand and ‘learn better’.

3.6.3 In School and at Home

Mouza (2008) and Lowther, Ross and Morrison (2003) both gave students individual access to laptops at home and at school but obtained different results (see table 3.5, p.91). Crucially, Lowther et al. provided internet access and teacher training on how to use IT to support inquiry activities. Mouza’s main focus was whether or not the laptop access significantly affected attitudes towards IT and school. It did not. However, students did report enjoying and preferring IT and teachers felt it improved writing quality, quantity and motivation. Unfortunately these things were not assessed directly. Furthermore, the writing improvements were in terms of the experimental group over

time rather than in comparison with controls. Lowther et al.'s study offered more information and was the best study in this collection. Only grade 6 and 7 students completed the writing assessment. Those with laptops demonstrated statistically significantly better writing quality compared with controls, with large effects on ideas, content, organisation and style and a medium impact upon conventions.

Observational data showed significantly better computer literacy and keyboarding skills. Grade 5 students in particular benefited in terms of using technology for learning, motivation, inter-disciplinary learning and higher level questioning. Grade 6 students had their problem-solving skills assessed and they performed better than controls. The students reported a range of improvements across IT skills, motivation and opportunities for paired and teamwork. Students with the laptops were significantly more likely to use the internet to support their homework. The laptops were affecting what and how they learned. Given the above it is surprising that the figure of 78% who wanted to use the laptops in class again was not higher. The benefits of providing laptops with internet access were clear. However, this study is from 2003 when such technology was not so wide spread.

Wolsey and Grisham (2007) combined teaching and discussion of literature with instruction in writing and the keeping of journals (see table 3.5, p.91). Alongside this they taught grade 8 students how to contribute to online threaded discussion boards, which it was possible to access at school and home. They theorised this would enable students to build up literate identities and improve their writing skills. Correlations were calculated between the pre and post survey student perceptions of their ability as writers. The interpretation of these correlations was unorthodox. For boys and the group overall there was a moderate, significant correlation pre and post, demonstrating little change. However, Wolsey and Grisham interpreted this as a significant improvement. The correlation for girls was weak and not statistically significant, demonstrating a significant, positive change in perceptions, yet they concluded this was not significant. The lack of appropriate controls, direct measures of writing skills and usage of the boards makes any conclusions tentative. All that can be stated is that following the intervention, with its range of didactic, collaborative, journals using and IT elements, the girls' self-perceptions as writers moderately improved.

3.6.4 Home Only

A small Finnish study by Kanala, Nousiainen and Kankaanranta's (2013) investigated the use of a mobile application for writing tasks completed at home (see table 3.5, p.91). There were no controls, few assessments and statistical analysis was not applied to the results and so the conclusions are limited. The application was designed to enhance motivation, develop writing skills and encourage both collaborative and independent working. The programme had been covered previously on computers in class, so the study essentially compared the use of mobiles at home with computers at school. The questionnaire results showed improvements in attitudes towards writing, task perseverance, writing enjoyment and self-assessed writing capabilities. The lack of a control means not too much can be drawn from that, since it may have been the content rather than the opportunity to use the tool at home which was instrumental. No measures were taken regarding rates of collaboration or writing attainment. It was clear that 70% reported improved task motivation when using the application and 74% expressed a preference for being able to use the mobile version. How much this related to novelty rather than utility would have to be seen in a longer study. On the other hand, there were technical issues at times and this may have had an impact. Only 48% thought the application itself was useful, suggesting some students simply liked using mobiles at home.

3.6.5 Summary

Given the pervasive nature of IT in daily life (European Commission, 2012) there was relatively little high-quality research. This may be in part due to a lag between technological advances and the publication of papers. Nonetheless, it was shown that individual laptop access provided at home and school for a year had a large impact on writing quality for 6th and 7th Graders and increased motivation and collaboration (Lowther et al., 2003). There was some evidence that IT use can benefit, and is welcomed by, students as low as grade 3 (Beck & Fetherstone, 2003).

IT can help with the mechanics of writing production and text construction (Snyder, 1993), what children learn and how they learn (Lowther et al., 2003). Word processing makes revision less onerous, spelling more easily managed and allows more focus on content rather than presentation. Some students are simply better at typing than

handwriting and this might affect the alacrity with which revisions are performed (Horne et al., 2012). It also enables artwork and other features to be added (Beck et al., 2003) and increases motivation (Beck et al. 2003; Lowther et al., 2003); something that can be lacking in poor achievers. This is borne out by Goldenberg et al.'s study (2011) which suggested weaker writers in particular might benefit from IT access.

Lowther et al.'s study (2003) showed the importance of training for teachers and being able to take laptops home, which facilitated valuable internet access. Internet access is now more readily available in homes but not necessarily through laptops; mobiles and tablets are the favoured technology. It is reasonable to assume that using IT at school and home aids skills development. The two strongest studies, Snyder (1993) and Lowther et al. (2003), also included a collaborative element, despite the students having individual access. A more contemporary study showed that smart phone applications (apps) can increase motivation for homework, at least in the short term (Kanala, Nousiainen & Kankaanranta, 2013). Smart phones and tablets have great potential, both in terms of apps and the opportunities for collaborative work done online at home.

The focus of this section has been on how IT can improve students' writing and evidence for this has been described above. An issue which became apparent was if IT facilitates better writing content and presentation why would students then be expected to complete assessments, including examinations, in pen? The demands for writing which they will encounter in life will largely be digital. It is clear, both in terms of impact and utility, that an intervention to improve writing quality would ideally include information technology.

Table 3.5 List of Information Technology Studies with Features and Effect Size and/or Statistical Significance Where Appropriate.

Study	**Treatment**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Beck & Fetherston (2003)	Students Produced Written Work With And Without Word Processor And *Story Book Weaver Deluxe* Software	Mainstream in G3-4 Class	3	Exp =7	6 weeks	None	Qualitative: Longer Stories, Better Selection Of Words, Stories Completed More Quickly. All Wanted More Lessons With Word Processors, Preferred The More Professional Presentation And Opportunity To Add Pictures And Backgrounds. All Believed Could Type Faster Than Write. Improved Attitudes Towards Writing.
Daniels (2004)	*Power Writing* Intervention 1hr Daily Plus Varied, Undefined Degrees Of Word Processor Access During These Lessons. 'High' Ability Students Had Power Writing Without IT Access.	'Medium' And 'Low' Ability As Designated By Homeroom Language Teacher	5	Six Classes Of 7-15 Students (No Other Numbers Given)	Up To 4 weeks	None; Comparison With Previous Cohorts	Michigan Educational Assessment Program Writing Assessment Figures *For Whole School* (% proficient): 1999-2000 54.3% (Year Of Intervention) 1998-1999 16.7% (N.B.1997-1998 38.3%)

Study	**Treatment**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
De Smet, Broekkamp, Brand-Gruwel & Kirschner (2011)	Use Of Electronic Outlining Tool – Outline Function In *Microsoft Office Word 2007* In Computer Room. Compared Not Used, Used Once, Used Twice. *In Netherlands In Dutch*	Pre-University School (i.e. Higher Ability)	10	Exp1=16 Con1 =18 N=34 Exp2 =16 Con2=14 N=30	1 week	Con 1 No Outline Tool Con 2 Outline Tool Used Once R	*Use Outline Tool Once (Between Subjects)* Perceived Mental Effort On Content Accuracy *p*= .004. *Use Outline Tool Once(Within Subjects)* Number Of Arguments Generated *p*=.039; Perceived Mental Effort (Overall) *p*= .008; Perceived Mental Effort On Content Accuracy *p*= .048; Time Spent Planning *p*= .001 *Use Outline Tool Twice Vs Once(Within Subjects)* Total Text Structure *p*= .037; Conclusion *p*=.011; Number Of Arguments Generated *p*=.001; Recommend Tool To Peers (N.B.*Decreased) p*= .041 *Use Outline Tool Twice Vs Once(Between Subjects)* Total Text Structure *p*=.01; Conclusion *p*=.014; Perceived Mental Effort On Content Accuracy *p*= .014
Goldenberg, Meade & Midouhas (2011)	*Writing Matters* Includes Process Writing; Workshop Approach; Genre Study; Online Activities And Resources; Digital Visual Resources; Computer Use; E-zine Publication.	Mainstream Urban	6	Exp= 256 Con=115 N=371	1 year	Writer's Workshop Approach	Treatment *p*= .57 *Bottom Scoring 20%* Treatment *p*= **.04;** Writing Engagement *p*= .73

Study	Treatment	Sample Characteristics	Grade	Group Size	Length of Study	Control R= Randomly Assigned	Statistical Significance / Effect Size (ES) Where Available
Kanala, Nousiainen & Kankaanranta (2013)	Mobile Phone Application To Develop Creative Writing And Support Independent And Collaborative Learning. *In Finnish, In Finland*.	Mainstream	5	Exp= 25	3 Months	None; Students Had Previously Covered Same Materials On Desktop Computers In School.	Statement / Agree/Disagree / Pre % / Post % / Change % I'm A Good Writer / Agree / 28 / 52 / 24 I Don't Like Writing When Topic Too Difficult / Disagree / 4 / 22 / 18 I Sometimes Lose Track Of Time When Writing / Agree / 32 / 52 / 20 Important To Me To Be A Good Writer / Agree / 40 / 70 / 30 Nice To Be A Good Writer / Agree / 48 / 70 / 22 I Write Only When Have To / Disagree / 32 / 57 / 25 Post Questionnaire % / Disagree / Neither / Agree Provided Task Motivation / 13 / 17 / 70 % / Desktop PC / No Preference / Mobile Preference / 9 / 17 / 74 System Usability Scale = 79.2 ('Excellent')

Study	Treatment	Sample Characteristics	Grade	Group Size	Length of study	Control R= Randomly Assigned	Statistical Significance / Effect Size (ES) Where Available
Lowther, Ross & Morrison (2003)	Individual Laptops For Use At Home And School. Internet Access. Teachers Trained In How To Integrate Computers Into Lessons Effectively.	Mainstream Sample Pools Randomly Selected From 12 Exp and 9 Con. Classes	5,6,7	Writing Exp=59(G6=29,G7=30) Con=59(G6=29,G7=30) N= 118 SCU, SOM: Exp=32(G5=8,G6 = 17, G7=7) Con=23(G5=10,G6=6,G7=7) N=55 Student Survey (G6&7) Exp=257 Con=134 N=391 Problem Solving (G6 Only) Exp=52 Con=59	1 Year	Teachers Computer Integration Trained And 5-6 Desktop PCs Per Class	*Writing Assessment:* Treatment $p<.001$; G6 p ES G7 p ES Ideas, Content .000 1.43 .000 0.90 Organisation .000 1.47 .002 0.83 Style .000 1.10 .001 0.94 Conventions .053 0.53 .025 0.59 *(Observational) SCU:* Computer Literacy, Keyboarding Skills *ps<.05* *SOM* G5 p ES G6 p ES G7 p ES Tech. As Learning Tool <.05 1.25 <.01 1.31 Use Higher-Level Questioning <.05 -1.08 Integration Of Subject Areas <.05 -0.98 Student Attention/Interest <.05 0.89 *Student Survey Exp vs Con* Increased IT Skills, Increased Interest In Learning, Better Grades, Improved Writing Skills, Daily Individual IT Work, Paired IT Work, Team IT Work, IT Usage, Internet Use For Homework *ps*<.001; Want To Use Computers Next Year, Skills In Use Of Different Software Types *ps*<.05 *Problem Solving Test* Treatment $p=.003$ p ES Understands Problem .000 0.76 Identifies What Is Known About Problem .000 0.72 Identifies What Needs To Be Known To Solve Problem .019 0.45 Determines How To Manipulate Data To Solve Problem .044 0.38 Describes Use Of Technology .025 0.44

Study	Treatment	Sample Characteristics	Grade	Group Size	Length of study	Control R= Randomly Assigned	Statistical Significance / Effect Size (ES) Where Available
Martin (2007)	Interactive Whiteboards (IWB) Used With Whole Class Literacy Hour	Mainstream	5	Exp= 28	6 weeks	None	*Writing* (Random Sample 6 Boys, 4 Girls)Average Of 2 Markers (%s) Improved / Same / Worse / Net Character Description 25 / 35 / 40 / -15 Persuasive Writing 70 / 25 / 5 / 65 Overall 25 *Children's views* Halfway Through / Post (%) Agree D.K. Disagree / Agree D.K. Disagree Helps Attention 82 4 14 / 76 8 15 Pictures On Screen Help Understanding 61 21 14 / Not Asked Sound Helps Understanding 79 7 14 / 65 15 19 Mouse, Touch Screen Helps Understanding 39 36 25 / Not Asked Learn Better When IWB Used In Class 82 7 11 / 73 19 8 'Towards End Of Project (%) Agree DK Disagree Watching Teacher Type Her Story Helps Me To Understand 57 25 17 Having More Time To Write Story Helps Me To Understand 96 0 4 Sharing Stories Helps Me To Understand 54 29 18

Study	**Treatment**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of Study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Mouza (2008)	Individual Refurbished Laptops For Use At Home And School. No Internet Access.	Mainstream 'Advanced' Academic Attainments. Largely Hispanic Heritage. Whole Classes Chosen On Basis Of Teachers'.IT Skills	3,4	Exp= 50 (G3=22; G4=28) Con = 50 (G3=25; G4=25) N= 100	1 Year	Two Computers In The Classrooms	No Statistically Significant Findings Qualitative: *Student Focus Groups* All Students Enjoyed Using IT And Preferred Word Processing To Handwriting. Laptops Used For Homework And Developing IT Skills At Home. G4 Liked To Use Fonts. Students Felt Helped Their Writing – Spelling, Grammar, Mechanics. *Teachers* Laptop Teachers: Improved Quality, Quantity Of Writing and Motivation. Control Teachers: IT Helped Motivation And Mechanics.
Snyder (1993)	Individual Word Processor (WP) Access For Writing Programme Lessons (Process Writing, Genre)	Melbourne Private School. Females. Mixed Ability (In That Context).	8	Exp=26 Con=25 N=51	8 months	Process Writing, Genre	*Text Precision* :Overall p=.06;Interaction Writing Tool And Genre p=.05 (Exp. Fewer Errors For Argument, Report) *Writing Quality* :Overall p=.01, Argument p<.01, Report p=.03, Narrative p=*.10* *Pooled Writing Quality(Across Genres) Treatment* p<.001 Inter Genre Differences (WP Vs Pen) in Planning, Conferencing, Revising p <.03.

Study	**Treatment**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Rowley & Meyer (2003)	*Computer Tutor For Writers* Process Writing Individualised Tutoring/Support Software Used For Writing Tasks In Computer Room Plus State Writing Curriculum. Post Hoc Constructed Treatment Groups Based On Amount Of Time Using CTW	Mainstream	8,9	Exp= 297 Con= 174 N= 471	1 Year	State Writing Curriculum	Post Hoc Total Time Using CTW Treatment Groups Hours Of CTW N % Gain Effect Size Control 0 174 -1 Group 1 2-6 99 -4 Group 2 6-11 163 1 Group 3 11+ 36 +11 0.62 Anova Treatment $p < .05$

Study	**Treatment**	**Sample Characteristics**	**Grade**	**Group Size**	**Length of study**	**Control R= Randomly Assigned**	**Statistical Significance / Effect Size (ES) Where Available**
Wolsey & Grisham (2007)	Literature Circles, Discussions, Journals, Instruction In Literary Elements, Writing, Software Training, Threaded Discussion Boards.	Mainstream	8	Exp= 67 (Male=29, Female= 38)	3 years (Each Cohort 1 Year)	None	Student Perceived Ability As Writers Correlation Between Pre and Post Surveys *p* All Students 0.408 .001 Male 0.513 .004 Female 0.282 .087

* SCU = (Observational) Survey of Computer Use. SOM = School Observational Measure

3.7 Integration of Meta-Analyses and Articles

The literature search identified a selection of meta-analyses relating to improving writing quality with mainstream school pupils (Graham et al., 2007; Graham et al., 2012; Rogers et al., 2008) and these were discussed above. Articles relating to individual studies were also identified in the search and discussed above, within the themes of explicit instruction, self-regulation and self-efficacy, collaborative and cooperative learning approaches and information technology. Information from both of these sources is integrated in detail in the text below.

3.7.1 Explicit Instruction

Effective mainstream writing interventions to improve quality come in a range of forms. Much of the research into explicit teaching of writing was weak but there were interventions with evidence of effectiveness. There were no notable differences between elementary and high school interventions. It would seem from meta-analysis that teaching summarisation with its large impacts at both elementary and high school level should be considered (Graham & Perin, 2007). However, the study with the lowest effect size was with high ability grade 8 students (ES=.18; Knight, unpublished doctoral dissertation, 2003, cited in Graham et al., 2007) suggesting that as a mainstream approach this is perhaps as high as it can profitably be used for students who were not struggling writers. Moreover, the youngest students to be studied were in grade 5 meaning its efficacy with younger children is unknown. Large to medium impacts were found with 'strategy instruction', a rather loose term, where strategies for one or more of planning, drafting, editing and revising in different genres were taught (Graham et al., 2007; Graham et al., 2012; Rogers et al.,2008). This seems remarkably like process writing approaches which have evidence of medium impact at grades 4-12 (Graham et al., 2007), provided that there is professional development for staff in the area. Differences in impact in comparison to strategy instruction may relate to the sophistication of the instruction when just one or two areas are addressed in depth. It would seem that without adequate training educators may just give a cursory overview of the process. Moreover, 'strategy instruction' often included SRSD studies, which addressed self-regulation.

Revision, for grade 5 and over at least, should go beyond spelling and word choice (Zhang, 2001). Revision was significantly associated with writing quality in 8th graders who has been taught CSRI, which is similar to SRSD, *two years earlier* (Fidalgo, 2008). Revision has also successfully been a part of multi-component interventions with students as young as grade 2 (Corden, 2007; Hough et al., 2012).

Grammar Instruction had a small to medium negative impact upon writing quality overall in the two larger meta-analyses (Graham et al., 2007; Graham et al., 2012). However, in the much smaller meta-analysis of Rogers and Graham (2008) it had a moderately positive effect: the latter included studies where grammar was taught in context to struggling writers. Indeed, teaching grammar in context was also shown to be far more effective than teaching grammar in a traditional way (ES=1.07, Fearn & Farnan, 2005 in Graham et al., 2007). Bilingual learners seemed to benefit from traditional grammar instruction (Graham et al., 2012) but the overwhelming majority of studies examined in the meta-analyses showed it to be an ineffective intervention for mainstream students.

Sentence combining had a medium impact and related somewhat to summarisation (Graham et al., 2007). Similarly, text structure instruction had a medium impact overall for elementary students, although the range was wide (0.13-0.94, n=9; Graham et al., 2012). Included were studies examining persuasive texts, multiple text and academic structures. Teaching story structure to the full range of elementary students led to an average effect size of .65 (range 0.32-0.94, n=3). Creativity/imagery instruction as described in Graham et al. (2012) had a medium-to-large impact on average (Graham et al., 2012). The four studies cited included two where visualisation/imagery was taught to high achieving 3-4 and 4-5 graders resulting in large effect sizes (ES=0.82 and ES= 0.84). The two studies in creativity instruction, which included brainstorming, had a large impact for struggling writers in grades 3-6 but a small impact on high achievers in grades 5-6. No full range ability studies were included. The study of models had mixed results (Knudson, 1989; Tracey & Headley, 2013) giving an overall small effect in the Graham et al. meta-analysis (ES= 0.25; range -0.29–0.44, n=6; 2007). The one study with a negative effect compared it with writing paragraphs with an emphasis on editing. However, the study of models was

included in Corden's (2007) very successful intervention at elementary school. He used a combination of features and process elements in his intervention at grades 2-5, including process writing, writing workshops, the study of models and literary devices and collaborative elements. This led to very significant improvements of up to double the rate of progress but how crucial the study of models was to this success is unclear.

Teaching transcription skills led to medium impacts in a meta-analysis (Graham et al., 2012). The studies only included students in grades 1-3 and the best result for full range students were at grade 1. Keyboarding and handwriting in particular led to moderate improvements, while spelling intervention only had a small impact.

3.7.2 Self-Regulation and Self-Efficacy

In grades 2-8, the teaching of self-regulation skills and development of self-efficacy *alongside* writing strategy instruction through SRSD or analogues/similar techniques led to better writing outcomes in students (Harris, Lane, Graham et al., 2012; Schunk et al., 1993; Schunk et al., 1991; Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008). The effects of CSRI were evident in Grade 6 in Fidalgo et al. (2008), which also included peer and teacher feedback, some two years later. Essential to self-regulation is the use of goals which lead to greater self-efficacy; this is associated with increased motivation, persistence and achievement (Schunk, 1994). Feedback from adults when assessing writing had a large impact in Graham et al.'s (2012) meta-analysis and this could be seen when Schunk and Swartz (1991, 1993) demonstrated that the addition of feedback to the use of process goals resulted in the best outcomes for elementary students, including when compared to product goals. Product goals were shown to have a medium to large impact on writing quality in Graham et al.'s (2007; 2012) meta-analyses, although studies using them with process goals were included; in particular, the Schunk et al. studies demonstrating the superiority of process goals (1991,1993). Nonetheless, product goals had a large impact upon productivity, that is, the amount written, in Rogers et al.'s (2008) meta-analysis of single subject design studies but whether this improved quality is not known. Brunstein and Glaser (2011) demonstrated that self-regulation with strategy instruction (of planning and revision) was significantly more effective than strategy instruction alone for 4th Graders.

Self-regulation can be taught via the use of teacher modelling, supported by subsequent guided practice (Schunk et al., 1991, 1993) or collaborative practice (Fidalgo et al., 2008). Graphic organisers and mnemonics can help students remember both process goals and elements of self-regulation (De la Paz, 1999; Fidalgo, 2008; Harris, Lane, Driscoll et al., 2012; Harris, Lane, Graham et al., 2012).

3.7.3 Collaborative and Cooperative Learning Approaches

Cooperative learning and collaborative learning are terms that can sometimes be used interchangeably, not least because activities do not always fall into neat categories. Panitz (1999) conceptualised them as being on a teacher-centred to student-centred continuum. More cooperative, teacher-centred approaches were originally developed for younger students, with specific goals in mind. More collaborative, student-centred approaches aimed to create consensuses of meaning through dialogue and were devised for more ambiguous topics (Panitz, 1999). Reflecting this continuum, studies sometimes used both elements. Highly teacher-structured, cooperative approaches, such as Jigsaw III (Sahin, 2011) and Cooperative Integrated Reading and Composition (CIRC) (Durukan, 2011) were shown to have large impacts upon writing skills for 6th and 7th graders respectively. Collaborative Dialogic Learning (Alfassi, 2009) was a more mixed approach. It began with a student-centred, collaborative phase before students left their groups to teach peers in other groups. This improved writing skills and, furthermore, the 7th graders benefited regardless of their relative cognitive abilities. CIRC and Collaborative Dialogic Learning combined reading and writing and showed gains in both areas. Student tutoring has been described as collaborative (Bruffee, 1984) but is actually more cooperative in nature, due to the imbalance of power. This may be why cross- age tutoring benefited the Grade 4 tutors and not the tutees (Paquette, 2008).

Meta-analyses assessed the theme of 'Peer Assistance', which included varying degrees of collaboration, from working together to providing mutual feedback to tutoring with fixed roles. It had a large impact at elementary school (Graham et al., 2012; Graham et al., 2007) and a medium impact at high school (Graham et al., 2007); suggesting utility at both levels. Looking more closely at the numerous mainstream studies included in Graham et al. (2007)

it could be seen that peer tutoring, cross age tutoring and peer feedback all led to medium effects at elementary level, as did students composing the same text together at high school level. A medium impact was also seen when high ability grade 8 students composed work together (ES=0.46, Dailey, 1991). A more effective approach seemed to be grade 4,6 and 8 students helping each other revise texts (ES=.96; Boscolo and Ascorti, 2004). This also led to large impacts with grade 4-6 students with special needs (ES=1.09; MacArthur et al., 1991). Similarly, helping each other plan, draft and revise texts had a large impact with special needs students at high school level (ES=1.18; Dailey, 1991). Peer assistance is a resource worth exploiting.

3.7.4 Information Technology

There was relatively little high-quality research into Information Technology (IT), given its ubiquity in everyday life (European Commission, 2012). Meta-analyses showed word processing led to medium impacts upon writing quality at elementary and high school level (Graham et al., 2007; Graham et al., 2012) and a moderate impact upon productivity (Rogers et al., 2008). IT can help with the mechanics of writing production and text construction (Snyder, 1993). Some students are simply better at typing (Horne et al., 2012). Word processing allows more focus on content rather than presentation and makes revision less onerous, and as Gustav Flaubert reportedly said, 'Prose is like hair; it shines with brushing'. Individual laptop and internet access provided at home and school for a year had a large impact on writing quality for 6th and 7th graders and increased motivation (Lowther et al., 2003). Students collaborated more despite having individual access, as in Snyders' study of 8th graders (1993). Training for teachers was required. There was some evidence IT can benefit, and is welcomed by, students as low as grade 3 (Beck & Fetherstone, 2003). A more contemporary study showed that smart phone applications (apps) can increase motivation for homework, at least in the short term (Kanala, Nousiainen & Kankaanranta, 2013).

3.7.5 Other Activities

A few interventions at elementary level which were identified in Graham et al.'s meta-analysis (2012) are worthy of note. Assessing writing and giving feedback to students had a large impact when it came from adults (ES=0.80) but a medium impact when performed by peers (ES=0.37). Comprehensive writing programmes, which included a range of approaches, had a medium impact, although it is difficult to tease out what the key features were. Pre –writing activities, which entailed either making notes or drawing pictures prior to writing, also led to a medium impact upon writing quality for mainstream students. Pre-writing activities are relatively simple to do and are perhaps a form of planning. Simply providing extra writing time had a small to medium impact and would be easy to add to an intervention. The survey of teachers for research question one could usefully find out how frequently children engaged in writing, although defining that might be challenging.

3.8 Implications for the Current Studies

This literature review was undertaken in order to find effective mainstream writing interventions for mainstream school age children. This related to the second, third and fourth research questions:

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 9 years 6 months to 10 years 6 months at the start of the school year in August in Primary 6 (P6; broadly equivalent to 5th Grade) in two elementary schools in Southern Scotland?

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students typically aged 12 years 6

months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

With these age ranges in mind therefore, it can be seen that explicit teaching of summarisation had a large impact at grade 5 but a very small impact for high ability students in grade 8, indicating less utility for older students (Graham et al., 2007).

Strategy instruction is the teaching of one or more writing strategies from planning, drafting, revision and editing. It can have a large impact on writing quality but studies which combined strategy instruction with self-regulation were more effective than strategy instruction alone (Graham et al., 2007). The widely-researched SRSD, and the similar but less teacher-intensive approach, CSRI, combined writing strategies with self-regulation and self-efficacy development strategies. Anderson (1997, unpublished doctoral dissertation, cited in Graham et al., 2012) had a large impact at grade 5 with full range of ability students including struggling writers (ES=1.49) using SRSD. With grade 6 students CSRI produced a large positive effect size with mainstream students (ES=3.19; Torrance et al., 2007). However, SRSD with grade 6 students of average or higher ability produced just a moderate positive effect size for Wong, Hoskyn, Jai, Ellis & Watson (ES= 0.64, 2008). There were no studies in the literature examining the use of CSRI at grade 8. SRSD was shown to have large impacts at grade 8 in an intervention with Social Studies and Language Arts teacher involvement to improve argumentative history essay writing (ES=1.36; De La Paz, 2005), although the students who had not mastered the strategies were not included in the results. This was because SRSD is intended to be as long an intervention as is required for the individual student to achieve mastery rather than a time-based intervention like CSRI. It does leave the possibility that those excluded students might need a very long time to achieve mastery, and might never do so. The effect size is therefore probably an over-estimate. A fruitful area of research into strategy instruction with self-regulation could be to find which parts can be omitted without affecting effectiveness significantly and thereby making training and implementation easier. It may, of course not be possible to simplify to do so, in which case, it may be appropriate to consider how best to ensure it is implemented.

Revision has been a part of other successful interventions with students from grade 2-8 and was associated with writing quality (Corden, 2007; Hough et al., 2012, Fidalgo, 2008) even when students don't actually spend more time revising (Fidalgo, 2008). Revision at the text rather than word level led to improved quality at grades 5 and 8 and so would be something to consider for the two studies (Zhang, 2001).

Product goals, sometimes alongside process goals, had a large impact with mainstream 4th to 6th graders (average ES=0.92, n=5; Graham et al., 2012). However, their effect at grade 8 has only been examined in the context of learners with special needs, where it had a large impact in a study in Graham et al.'s 2007 meta-analysis (ES=1.18, Page-Voth and Graham, 1999). Incidentally, Graham et al. (2007) erroneously stated that Ferretti et al.'s study included mainstream 8th graders (2000).

Sentence combining had small or moderate effects with students in grades 4-9 (Graham et al., 2007). Text structure instruction had a variable impact at grades 2-6 (Graham et al., 2012) with a moderate impact on average. The impacts with older students were inconclusive, with large negative and positive impacts seen in different studies (Graham et al. 2007). No studies included grade 8 students.

Visualisation /imagery (Graham et al., 2012) had a large impact with high achieving 3-5 graders. It would be expected to be a good intervention for mainstream 5th graders but its impact with 8th graders is unknown. Creativity instruction (Graham et al., 2012) was very effective with struggling grade 3-6 writers but only had a small impact with high achieving 5th and 6th graders. It does not seem likely to have a large impact with mainstream grade 5 and 8 students. The study of models on its own had a small impact at grades 4-12 (Graham et al., 2007). Teaching transcription, particularly handwriting and keyboarding skills, had a medium impact with grade 1-3 students but the effect for higher grades is unknown.

Collaborative and cooperative learning approaches, which can be usefully conceived on a continuum based on teacher versus student authority, as described above, were included in interventions where they took both minor and major roles. More cooperative approaches in 6th and 7th grade (Sahin, 2011; Durukan, 2011) and a more collaborative approach in 7th

grade (Alfassi, 2009) were all shown to have large impacts and this would suggest similar effects in grades 5 and 8.

Peer assistance was shown to have a large impact at elementary level (Graham et al., 2007) particularly when mainstream students in grade 4 and over helped each other revise their texts and so this could usefully be considered for the 5th graders of the current study. High school students with special needs helping each other plan, draft and revise showed large improvements but the effect on mainstream students is not known. However, having students simply help each other revise texts had a large impact at grades 4, 6 and 8 (ES=.96; Boscolo and Ascorti, 2004).

Word processing led to medium impacts upon writing quality at elementary level and high school level but the meta-analyses contained wide variation in impacts (ES= 0.47, range -0.44 – 1.46, n=10, Graham et al., 2012; ES= 0.55, range-0.18–1.74, n=18, Graham et al., 2007). Individual laptop and internet access at home and school for a year had a large impact on writing quality for 6th and 7th graders and increased motivation and collaboration (Lowther et al., 2003). Unfortunately, the grade 5 students in this study did not complete a writing assessment. This could well be a good intervention for 8th graders as well but the time frame is too long for the current studies. Individual IT access, as in Snyders' study of 8th graders (1993), can actually help to increase collaboration in addition to producing significant improvements to writing quality. There is also much potential for the use of smart phones as in the Finnish study with 5th graders (Kanala, Nousiainen & Kankaanranta, 2013) however availability of the hardware remains another considerable barrier in a time of austerity.

Adults assessing writing and providing feedback to students had a large impact with elementary students (weighted ES=0.80, Graham et al., 2012) but the impacts were more moderate at grade 5. The impact for 8th graders did not appear in the literature search, although Graham et al. (2007) in their "feedback" theme (p458) included Duke's 2003 study with grade 10-12 students for whom teacher assessment and feedback was significantly less effective than teacher modelling of how to plan (ES=-61).

Providing extra writing time has a small to medium impact (Graham et al., 2012) and would be worth considering due to its relative simplicity, dependent somewhat upon how frequently writing happens currently in the region. The survey to address research question one will assist with the assessment of this and whether extra writing time might be a profitable way forward.

Although some useful studies were found, there is a need for more good quality research into improving mainstream students' writing quality. Long-term studies were few and far between, notable exceptions being into CSRI (similar to SRSD) (Fidalgo et al., 2008) and laptop use (Lowther et al., 2003). Much of the research into explicit instruction in particular is poor. There are a number of important omissions in the writing research besides the ones identified above. How summarisation or creativity or imagery instruction may helpfully be combined with other approaches has not been investigated. Research on the effect of self-regulation and self-efficacy interventions for upper high school students is absent. No studies investigated the impact upon writing skills of a purely student-centred, collaborative approach with full range students at elementary or high school level. It would be informative to know if full range students of different ages benefit from simply working collaboratively on a piece of writing, as high ability 8th graders were shown to do (Hill, 1990, in Graham et al., 2007). Contemporary IT research featuring tablets, smart phones used at home and at school would be informative, especially for younger students.

Studies can contain so many elements that it is not possible to decide whether they are working in synergistic fashion, or if some elements may be superfluous or even deleterious, for example, Corden (2007) included a weekly writing workshop on extended writing, process writing, the study of models, explicit instruction in literary devices, teacher and peer feedback with focussed group discussions in his successful intervention, which incidentally was without maintenance assessment. The highly effective interventions which combine strategy instruction with self-regulation and self-efficacy development, like SRSD and CSRI, contain a wide range of elements besides strategy instruction and self-regulation, including mnemonics, graphic organisers, peer collaboration, teacher feedback, thinking aloud and elements of genre and modelling (De la Paz, 1999; Fidalgo et al., 2008; Harris, Lane, Driscoll et al., 2012; Harris, Lane, Graham et al., 2012). The complexity of

such approaches means they are perhaps less widely used as would be wished. Paring these down to essentials, if possible, would make uptake easier and therefore more likely. Although there are gaps in the research the evidence-base is still wide ranging and this presents difficulties in considering which areas might profitably combine.

3.9 In Practice

Having highlighted effective interventions and areas of omission from the research consideration must next be given to what this may mean in practice in the context of Scotland. Interventions with evidenced large impacts at or near the target grades are presented in Table 3.6 (see p.112) as including one or more of these would be likely to be very effective. This does not mean that simple interventions of medium impact could not be included in due course.

Collaborative working, together with what is described as independent learning, are advocated for effective teaching of literacy in the Curriculum for Excellence used in Scottish State schools (Learning and Teaching Scotland, 2009). Cooperative learning approaches, such as Jigsaw (Sahin, 2011) and Cooperative Integrated Reading and Composition (CIRC) (Durukan, 2011), have been successful in grades 6 and 7 respectively, while Collaborative Dialogic Learning (Alfassi, 2009) has been shown to be effective at grade 7. The relevant resources are easily available for these interventions although their effectiveness has not been demonstrated clearly at the target grades. They could provide an opportunity for learning about writing itself and so be used as a tool for strategy instruction. They all require a modicum of group work skills in the students and staff who are prepared to work differently. This might have implications when the intervention needs to be rolled out further across the authority.

Individual laptop and internet provision for a year with training has been shown to be very effective at grades 6 and 7 (Lowther et al., 2003). However, the long time scale would be problematic in terms of these studies and would delay a subsequent wider roll out across the region. Smaller time scale IT interventions are variable in their impact (Graham et al., 2007; Graham et al., 2012) although this does not mean that the Lowther et al. model would

be; it just is not known. Similarly, individual IT access at school in writing lessons has significant impacts at grade 8 (Snyder, 1993), suggesting that either intervention might be effective at both target grades. However, anecdotal information suggests that classes often only have very limited access to IT suites or perhaps only six or so pieces of hardware. If an IT intervention proved successful this would necessitate greatly increased IT availability for students. This is something which would be very unlikely to be possible to provide in the current economic climate. Furthermore, the difficulties in providing hardware would also apply to the use of smart phones, which as yet, have little actual evidence of impact.

Peer assistance with revision has been shown to be effective at grade 8 and grades either side of grade 5, which was not included in Boscoli et al.'s study (2004).

Considering product and process goals, Ferretti et al. (2000) had just a small positive effect size at grade 6 when teaching goals on argumentation, while the grade 4 students in the study did not benefit. In a more recent study, the goals were taught for use as specific strategies for achieving particular purposes, i.e. the goals were more elaborate, and there was a large positive effect with the 4th and 6th graders studied (ES= 1.11; Ferretti et al., 2009). Process goals with feedback were especially effective in Schunk et al.'s studies of 4th and 5th graders (1991, 1993) and this is likely to be true for older students too.

Studies which combined strategy instruction with self-regulation were more effective than strategy instruction alone for mainstream 4th graders (Graham et al., 2012) but comparisons for older mainstream students were not found in the literature.

Approaches which combine strategy instruction with self-regulation and self-efficacy development, such as SRSD and the briefer CSRI, have a wide research base. Large impacts from SRSD have been seen with mainstream students at grades 4, 5 and 8 (Anderson et al., 1997,unpublished doctoral dissertation, cited in Graham et al., 2007; De La Paz, 2005; Brunstein et al., 2011) although a moderate impact was seen in grade 6 (Wong et al., 2008). CSRI has proven large impact in mainstream at grade 6 but has not been tried at the target grades, although long term evidence of impact has been demonstrated CSRI (Fidalgo et al., 2008). These approaches are a combination of many proven elements, such as strategy instruction and self-regulation, including process and

product goals, mnemonics, graphic organisers, peer collaboration, assessing writing and teacher feedback, thinking aloud and elements of genre and modelling (De la Paz, 1999; De La Paz, 2005; Fidalgo et al., 2008; Torrance et al., 2007). It has been noted that SRSD demands more direct teacher work with students, while CSRI uses more peer collaboration instead (Torrance et al., 2007). The large number of elements of both interventions may in part explain why take up has not been wider. Furthermore, peer revision alone has been shown to have a large impact on the writing that students subsequently produce independently (Boscoli et al., 2004) but it had been difficult to get students to revise their writing in the CSRI intervention once they have been taught how to plan (personal communication, R. Fidalgo, 26th August 2014). Trying to encourage revision within an Anglophone version of CSRI- which is shorter than SRSD- through the use of different coloured pens, double spacing, cooperative peer learning and activities in class to encourage generalisation would mean that the students would be exposed to activities proven to raise standards. Investigating this area would be aided by the wide range of resources available, both for use in class and for training staff. Given the complexity, some mechanism for supplying support would probably be needed to ensure programme implementation. SRSD is a personalised, not a time-based intervention, meaning it would be harder to compare with controls unless students were excluded who had not finished achieved mastery (De La Paz, 2005).

Summarisation is an effective grade 5 intervention (Chang, Sung & Chen, 2002) but it had a very small impact for high ability students in grade 8 (Graham et al., 2007). It is unlikely, therefore, to have a large impact for many of the mainstream 8th graders in the study. Similarly, visualisation/imagery was effective with high ability 5th and 4th graders, suggesting utility with mainstream grade 5 students (Jampole, Mathews & Konopak, 1994) but there is no evidence supporting use at grade 8. Furthermore, as the visualisation activities are outside of literacy lessons they would demand something be cut from the curriculum. Using time currently allocated for writing is likely to be counter-productive, as it is known that extra writing time improves quality (Graham et al., 2012) and reducing the curriculum elsewhere might be difficult or resisted. In addition, the study was quite old (Jampole et al., 1994) and obtaining the relevant resources might be a challenge.

Table 3.6 List of Writing Interventions with Evidence of Large Impacts (ES≥ 0.80) at Grades 5 and 8 *or Similar Grades*; Practicality in Context of this Study Included

Intervention	**Grade 5 (✓= Large Impact Evidenced)**	**Grade 8 (✓= Large Impact Evidenced)**	**Practicalities In Context Of This Study**
CSRI (Torrance et al., 2007; Fidalgo et al., 2008).	*Grade 6*		Wide Range Of Resources Available Teachers For Both Age Groups Could Be Trained Together Complex
Collaborative Dialogic Learning (Alfassi, 2009)		*Grade 7*	Resources Available Children Need Adequate Group Work Skills Highly Structured Staff Training
Cooperative Learning Approaches Such As Jigsaw (Sahin, 2011) *and CIRC (Durukan, 2011)*	✓ *Grade 7*	*Grade 7*	Resources Available Children Need Adequate Group Work Skills Highly Structured Staff Training
Individual IT access at school in writing lessons (Snyder, 1993)		✓	Hardware costs Timetabling Staff training
Individual laptop and internet access at home and school for a year plus teacher training (Lowther et al., 2003)	*Grade 6*	*Grade 7*	Hardware Costs Long Time-Scale For Intervention Staff Training
Peer Assistance With Revision (Boscoli et al.,2004)	*Grades 4 & 6*	✓	Staff Training
Process/Product Goals (Schunk et al., 1993)	✓		Staff Training
Self-regulated strategy development (SRSD) (Anderson, 1997 cited in Graham et al., 2012); *Brunstein et al., 2011*; De La Paz, 2005).	✓ *Grade 4*	✓	Wide Range Of Resources Available, Including Free Online Tutorial Teachers For Both Age Groups Could Be Trained Together Complex So Staff Training Likely To Take Longer An individualised programme therefore students finish at different times
Summarisation (Chang et al., 2002)	✓		Training
Visualisation/Imagery Instruction (Jampole et al., 1994)	✓		*Sourcing Resources* *Training* *Timetabling*

3.10 Conclusion

It can be seen that a good range of highly effective, evidenced interventions remain possible for use in this study and that there are opportunities for extending the research base in this important, but often overlooked area. Improved writing is worthwhile in itself but additionally has been shown to benefit reading comprehension (Graham et al., 2011). The survey of teachers, which is part of this overall study and addresses research question one, will ascertain the extent to which these evidence-based elements of good teaching of writing may already be employed in the region's schools. This will help determine both the final nature of the intervention and the degree of professional development likely to be required.

Chapter 4: Teacher Survey Methodology

This chapter first considers the methodology of the survey then the research design. Ethical considerations are noted. Next, available information on the population of school teachers in the Local Authority in Southern Scotland where the teacher survey was distributed is provided. This is followed by a description of the instrument. Finally, the proposed methods of data analysis are considered.

4.1 Methodology

The first research question was: *What view do primary and secondary teachers in a Local Authority in Southern Scotland have of current practice in writing instruction and of a range of evidence-based approaches?* This seeks to access the perceptions, or constructions, of the teachers and leads towards an interpretivist epistemology based on a subjectivist ontology. A subjectivist view of social reality acknowledges that reality is socially constructed and people construe it in different ways while an objectivist view assumes that the world is knowable as it really is (Greenfield 1975, in Cohen, Manion & Morrison, 2011).

For a time there were "paradigm wars" around which types of epistemologies were most suitable in social sciences. A dichotomy was presented between qualitative (e.g. interpretivist) and quantitative (e.g. positivist) approaches (p.21, Gage, 1989, in Cohen, Manion & Morrison, 2011). In the past decade or so a recognition that many researchers tended to be on a continuum between these two poles has been articulated. This middle ground has been described as a "mixed methods" approach (p.18, Cresswell, 2003). In a mixed methods approach, qualitative and quantitative tools are used as appropriate to the research question being asked rather than the methodological preferences of the researcher (Cohen, Manion & Morrison, 2011). A mixed methods approach was taken in this study because it recognised the participants' views would be constructions rather than objective statements of reality while allowing for triangulation and generalisation of the findings. Some have described the ontology for mixed methods approaches as "pragmatic" (Cresswell, 2003; Johnson et al., 2004) and have described it as a new paradigm (Johnson

et al., 2004) although some would not yet describe it thus but would still advocate the approach (Cohen et al., 2011). A more qualitative approach, such as the use of interviews, would have been time-consuming and the information elicited may not have been generalizable and would be more susceptible to the biases of the researcher (Johnson et al., 2004). A more quantitative approach could not account for the importance of meanings construed by the teachers at different points. First, there were the meanings the teachers gave to the survey itself and whether it was worth completing and if so, how diligently. Second, the teachers had to interpret each question and might not have done so in the same way, dependent upon their knowledge and experience. Next they had to consider their own practice, and there will have been variation in the awareness different teachers may have had of this. Then they had to interpret this in terms of the potential responses offered in the closed questions, as the teachers may have had differing notions of what the rating scales represented (Cohen, et al., 2011). In addition, there were the values and biases of the researcher to be negotiated. Furthermore, an inductive approach was taken to analysing the data.

Concurrent procedures were followed in this part of the study (Cresswell, 2003) that is, both quantitative and qualitative data were collected simultaneously. Given the purpose of the research was to investigate beliefs and practices of large numbers of teachers with regard to writing across a local authority, a typically quantitative tool, the survey, was used which included one open, qualitative question. Mixed methods provided the benefits of some degree of triangulation but did leave the question of how to interpret conflicting results should they arise.

4.2 Research Design

The teacher survey was devised in order to answer the first research question: *What view do primary and secondary teachers in a Local Authority in Southern Scotland have of current practice in writing instruction and of a range of evidence-based approaches?* A survey was chosen for a number of reasons. It would enable the attitudes and practices of a larger sample of teachers to be accessed than techniques such as focus groups or interviews. It would be less-time consuming and, provided the response rate was high enough and the

respondents were representative, would facilitate data analysis in respect of the teachers as a whole. Consequently, it would provide useful information to the Education Department of the Local Authority about the attitudes towards, and confidence in, teaching writing expressed by its teachers. Furthermore, an indication of the extent to which effective approaches were being used and IT being exploited to support the teaching of writing would be discovered. Moreover, the survey would provide this information for different sectors of education and subject areas; thus identifying the sorts of training which should be provided in future. In light of the above, permission for the survey was received from the Director of Education via the Head of Curriculum and School Improvement following discussions around the purposes and the likely content. It was requested that a summary of the findings be presented in due course.

4.3 Ethics

It was made clear to participants that the survey was done in conjunction with Dundee University. The purposes of the research were shared and how the findings would be used, namely to inform further research and training in the region. Participants were reassured repeatedly that their responses would be confidential and anonymous. Participants were free to amend their responses before finally submitting them. The anonymous data will be held electronically by the authority for six months. The researcher will destroy the data upon completion of the doctorate.

4.4 Sampling

The Local Authority in Southern Scotland where this study took place is one of the largest in Scotland in terms of area but not of population size; having an overall population of 150,270 in 2013 (Scottish Government, 2013b). More than half of the population in the region lives in remote small towns or rural areas compared with 21.2% nationally (see table 4.1 below).

Table 4.1 Percent of Population in each 6-fold Urban/Rural Category (Scottish Government, 2014)

	Large Urban Areas	**Other Urban Areas**	**Accessible Small Towns**	**Remote Small Towns**	**Accessible Rural**	**Remote Rural**
Scotland	34.5	35.1	9.3	3.4	11.7	6.1
Regional Authority	0.0	29.0	17.5	7.6	26.2	19.6

The population is relatively older in the region, with 25.76% of pensionable age compared with a national average of 19.81 (Scottish Government, 2013b). The most recently available figures from 2011 showed that 12.5 % of the population was income deprived, compared to a national average of 13.4% (Scottish Government, 2013b). The Scottish Index of Multiple Deprivation (Scottish Government, 2012) considers income levels within geographical areas. Not all people in deprived areas are deprived while not all people who are deprived live in deprived areas. Nonetheless, it does give some indication as to the broad Socio-Economic Status (SES) of the region. Scotland was divided into 6,505 datazones, or areas, each with a population of around 800 (Scottish Government, 2012). This region had 193 datazones; of these, 6.7% were in the lowest 15% of datazones by overall deprivation in 2012 (Scottish Government). This placed the region at a ranking of 17 out of 32 local authorities in Scotland for the number of areas within this lowest 15%. The majority of the region's datazones were in the middle deciles.

The Local Authority provided some information about the schools and school teachers. The total number of children attending school in the region in 2015 was 18,827. This comprised of 8,146 children at elementary school and 10,681 at high school. Due to the geography of the region there were a large number of relatively small schools, particularly at elementary level (see table 4.2). Since there are seven grades at elementary school in Scotland this results in composite classes in elementary schools with at least a child in each grade and fewer than 197 students; meaning the majority of elementary schools have one or more composite classes.

Table 4.2 Elementary and High Schools in the Region by Numbers of Students on Roll

	1-50	51-100	101-150	151-200	201-250	251-300	301-350	351-400	401-550	551-700	701-850	851-1100	Totals
Elementary Schools	42	24	6	11	6	5	6	2	0	0	0	0	102
High Schools	0	1	0	0	2	1	1	1	3	2	3	2	16
Totals	42	25	6	11	8	6	7	3	3	2	3	2	118

With regard to the staff, female teachers out-numbered male teachers by around four to one. This was even more marked at elementary level (see table 4.3).

Table 4.3 Elementary and High School Teacher Totals by Gender

	Female	Male	Totals
Elementary School	634	63	697
High School	494	299	793
Total	1128	362	1490

The numbers of years of teaching experience were not known. However, the age ranges were available. It was not clear why the total number of teachers from the age range data (1352) did not equal the number of teachers from the gender data (1490). The Local Authority advised that the gender data was the most accurate record. Elementary teachers had a reasonably even spread across the age ranges but there were relatively fewer high school teachers aged under 25 or between 35 and 49 (see table 4.4). The reason for this was not known.

Table 4.4 Teacher Totals by Age Range

Age Range In Years	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55 or over	Totals
Number Of Elementary Teachers	58	89	84	66	79	76	77	74	603
Number Of High School Teachers	38	102	112	72	84	85	136	120	749
Totals									1352

The majority of primary teachers were not employed as subject specialists (see table 4.5) and those who were, largely taught Art and Design, Music or Physical Education.

Table 4.5 Elementary Teacher Totals by Main Subject

Main Subject	Number Of Teachers
Primary Teaching	633
Peripatetic Additional Support For Learning Teacher	17
Peripatetic Art & Design Specialist Teacher	16
Peripatetic Physical Education Specialist Teacher	17
Peripatetic Music Specialist Teacher	14
Total	697

The main subject areas, using classifications approved by the Scottish Government, were known for high school teachers (see table 4.6, p.120). This did not include Depute Head Teachers and so resulted in a lower total than for the gender data.

4.6 Instrument

4.6.1 Survey Design and Distribution

In the first instance a paper survey was considered. Discussions with Human Resources at the Local Authority suggested that there were nearly three and a half thousand teachers in the region's schools and so this was clearly not practical. The Local Authority had a license to use the Survey Monkey tool for administering surveys online and so work began with the Local Authority's Web Team of IT specialists. However, after the survey had been launched it transpired that there was actually less than half that number of teachers, although using an online survey would still have a number of benefits: The layout and number of questions would not be restricted by the requirement to keep the survey length to two sides of A4 paper; it would be easier to do reminders, without having to send further copies out; it would be cheaper and would save time, particularly during data analysis, as the data could be collated and summarized automatically. A potential risk was that the response rate would be lower, as online surveys are much less likely to achieve response rates as high as paper surveys (Nulty, 2008).

The department usually sends important messages to staff by email via the Head Teachers of the schools and so this was to be done for the survey. An email was drafted for the director to send out (see appendix 4.1) alongside the link to the survey.

Table 4.6 High School Teacher Totals by Subject Area -Does not Include Head or Depute Head Teachers

Subject Area	**English**	**French**	**German**	**Other Modern Languages**	**Maths**	**Biology**	**Chemistry**	**Science (General)**	**Physics**
Number Of Teachers	81	34	3	4	71	42	27	3	24
Subject Area	**Geography**	**History**	**Religious Education**	**Modern Studies**	**Business Education**	**Computing**	**Home Economics**	**Technical Education**	**PSE/ Guidance**
Number Of Teachers	26	37	21	17	26	9	34	45	3
Subject Area	**Art and Design**	**Music**	**Physical Education**	**Drama**	**Learning Support**	**ASN General**	**ASN Behavioural Support**	**Other**	
Number Of Teachers	33	29	60	18	43	3	1	3	

The email emphasized the value of responding, both for the respondent as an opportunity for reflection and to help target future training but also for its academic research utility. Reassurances that anonymity would be maintained were given along with the author's contact details should they wish to inquire further. This was sent on a Monday, as this is the optimum day of the week for obtaining responses within organisations, leading to an average of 13% more respondents (Zheng, 2011). The survey was distributed in the second week back to schools in January in the hope that staff would be refreshed from the break but not yet feeling too busy to spend time on it. December had been offered by the authority earlier but this is known to be the worst month of the year for securing responses (Cohen, Manion & Morrison, 2008). Fortuitously, the Education Department twice-yearly magazine was due to be published in February and so an article was included advertising the survey and giving the relevant web link in order to secure additional publicity. Incentives, such as the opportunity to win a small prize can be used to increase response rates (Cohen et al., 2008). However, difficulties around keeping the data anonymous while submitting names for a raffle were expressed by the Web Team. Moreover, the Authority had been vilified in the press in the past for spending money on incentives for survey completion at a time of budget reductions. It was therefore decided not to use incentives. A reminder was sent out two weeks after the initial posting since they are known to increase response rates (Cohen et al., 2008). Subsequently, an email was received expressing difficulties using the Survey Monkey. It transpired there had been a server problem that day which was resolved. The second reminder made mention of the server difficulty being resolved.

4.6.2 Piloting of Questionnaire

A draft survey was produced (appendix 4.2) and this was piloted with staff from an opportunity sample of three schools – two primary schools and one high school. The staff were given the link to the online survey and asked to complete it before meeting with the author. The two small elementary schools shared the same Head Teacher and comprised of six teachers alongside the Head. These met together. The six High School teachers comprised of two English and two Modern Languages teachers and a Humanities and a Drama teacher. Their feedback was invaluable in improving the quality of the instrument.

All the respondents liked the online format and found the survey took under ten minutes to complete. A question regarding subject specialism was problematic for primary teachers in particular as some listed their first degree, others the subjects of the curriculum and some left it blank. Consequently, the option to tick primary or secondary was added, with the option for primary specialisms to be inserted. The difficulties in considering who the respondents were answering the questions in relation to arose at both levels, as even the elementary teachers taught ranges of ages due to the requirement for composite classes in small schools. There was also confusion about the meanings of the terms "self-regulation", "revise", "visualisation", "publish", "adult feedback", "product goals", "process goals" and "cooperative learning". These were subsequently given clearer definitions and descriptions in the questionnaire. It was noted that the questions around evaluation did not make it clear whether it was the teacher's or the student's evaluation. In addition, one teacher noted in response to a question about the degree to which they used IT to support the teaching of writing that, "It would have been useful to have the opportunity to quantify when IT could be used, i.e. resources restrictions…" This led to the construction of a new page around the availability and use of IT to support writing (see appendix 4.3 (the final survey)). It was also pointed out that one of the pages was very long which meant that when answering the questions at the bottom one could not see the descriptions of the columns at the top. This resulted in the page being spread over two pages.

A drama teacher pointed out that anonymity was somewhat theoretical for some groups, given that there were fewer than 16 drama teachers in the whole authority and consequently felt that the honesty of the response to some questions was compromised.

4.6.3 Description of Questionnaire

The final survey comprised of 10 webpages and was designed to be clear and easy to complete (see appendix 4.3). A progress bar illustrating how much of the survey had been completed was added in order to increase motivation.

The first page stated the purpose of the survey, the likely amount of time required for completion and the length of time the survey would be open. Anonymity was assured in the hope that a greater number of, and more reliable, responses would be provided.

Questions one to six examined the characteristics of the respondents, namely the variables of gender, length of time teaching, whether they were elementary or high school teachers, and the subject/s taught. These questions were used by Kiuhara et al. (2009). Elementary teachers were given the opportunity to record any additional specialisms while high school teachers were expected to record the subject/s they taught and also those they were trained in, as they could not be assumed to be the same. These were left as "comment boxes" rather than providing a range of options. Compiling an exhaustive list of the potential subjects would be problematic as it would have needed to be very long and would not necessarily be exhaustive, so a comment box would still have been required. The responses will require coding before analysis. McCarthey & Mkhize (2013) highlighted important differences between schools with students from high and low socio-economic status in how writing was taught. This would have been an interesting variable to include in the survey. However, finding this information accurately would have prevented responses being anonymous and so reluctantly this area had to be omitted.

The grade/s of the students taught was requested, in common with other surveys, due to the differences in approaches required. Next, the total of years teaching experience was requested. A range of options in increments of four was provided in order to simplify data collation and analysis. Respondents were then asked to record the number of students on roll from a selection of ranges. These were deliberately designed to ensure that each band had at least two schools from the region within it, thus protecting anonymity while still giving an indication of the size of the establishment.

For the remaining questions teachers were asked to choose the grade level at which they would be considering their responses. This was a consequence of remarks made during piloting that teaching a range of grades meant they were employing different approaches for different-aged students. Requesting a grade to focus on would mean that some

approaches might not be mentioned but it would enable clearer, more valid comparisons to be made between the grades.

Question 8 asked respondents to rate the frequency with which they use twenty-two different writing teaching methods or activities, with eight options: never; several times a year; monthly; several times a month; weekly; several times a week; daily; several times a day. These were the same options used by Kiuhara et al. (2009) for some questions. The writing activities/approaches had been identified during the literature review as having evidence for the efficacy.

The first item, "Teach summarisation skills" was similar to a question covered in Kiuhara et al. (2009), "Teach strategies for summarizing reading material into a written product" (p.158, Kiuhara et al., 2009) and used the same eight point rating scale. Teaching summarisation has been demonstrated to improve writing quality (Graham et al., 2007). The next item, "Provide writing strategy in instruction (one or more of planning, drafting, revising, editing)" reflected the range of activities included in meta-analyses under the theme of strategy instruction (Graham et al., 2012; Rogers et al., 2008; Graham and Perin, 2007). On this theme, Simmerman et al. (2012) included a rating question on a) the use and b) the value of "Writing as a process of steps and stages" (p.306) which brought the opportunity to contrast values and practice. Simmerman's respondents were invited to circle a number from one to five, for both value and use, with "1" being "least valued, used" and "5" "most valued, used". Similarly, Kiuhara et al. (2009) had a question considering writing as a series of stages, through the item: "Use a process approach to writing instruction in my classroom" (p.158). Kiuhara et al. (2009) and Scott et al. (2009) both considered separate elements of process writing and this is examined more closely in the paragraph on question 9 below.

Keeping with question 8, two of the items in this section had little evidence of mainstream efficacy. In fact, grammar instruction lessons have been demonstrated to have a significant, negative impact upon writing for mainstream students (Graham et al., 2012; Graham and Perin, 2007) and knowing whether or not these were being employed in the region would be useful information. Simmerman et al. (2012) used the same five point rating scale

described above for the value and use of "Grammar Instruction" (p.306). How frequently teachers taught grammar skills was investigated by Kiuhara et al. (2009) but only with regard to students who are "struggling with writing" (p.159) in recognition of this negative impact for most students. They provided a five point rating scale with the options: never; 1-2 times yearly; 1-2 times monthly; 1-2 times weekly; daily. The eight point scale used in this section of the survey would enable more discrimination of response. A further item for this survey investigated the frequency of the teaching of grammar in context, as this, although certainly preferable to traditional grammar instruction (Graham and Perin, 2007) and possibly of benefit to struggling writers and bilingual students (Graham et al., 2012), has not been shown to be appropriate for mainstream students.

The next item inquired about the usage of visualization/imagery instruction, which had been identified in the meta-analysis of Graham et al. (2012). It had not been asked about directly in any of the surveys identified in the literature review, despite having a large effect size for high achieving 3-5 graders. Moreover, McCarthey et al. (2013) had found some references to creativity and imagery instruction in the interview responses of teachers from high income schools. Following the piloting, a brief description was included. This was naturally followed by creativity instruction, as studies from both areas had been combined in Graham et al.'s meta-analysis (2012). This technique had a large impact for struggling writers in grades 3-6 (Graham et al., 2012) and so could reasonably be assumed to be of benefit for younger children. Again, a brief description was attached. Simmerman et al. (2012) included a question about the use of brainstorms, which is but one example of creativity instruction.

This was followed by an item regarding the provision of feedback from teachers, assistants or trained parents. Teacher feedback has been evidenced as having a large impact for mainstream elementary students (Graham et al., 2012; Schunk et al., 1991, 1993)). No survey from the literature review mentioned parental feedback, yet Guastello (2001, in Graham et al., 2012) showed that combined with self-evaluation it had a large impact with 4th graders. Simmerman et al. (2012) had asked about the value and usage of "Individual conferences for instruction" (p.306) by teachers, using the five point scales described above. Presumably this would include feedback. Conferences did come up in interview

responses in Scott et al. (2009) while Peterson et al. (2007) asked interviewee teachers the open questions: "How do you give feedback to your students on their writing? How important do you feel this feedback is in helping students with their writing?" (p.375). These were not options for this survey given the large population size.

Process and product goals were examined next. These had been combined under the title of product goals in the Graham et al.'s meta-analyses (2007; 2012) and shown to have a medium to large impact. Product goals or "goal setting for productivity" (p.888) made a notably large impact on productivity in Rogers et al.'s meta-analysis of single subject design studies (2008). However, Schunk et al.'s studies (1991, 1993) demonstrated the superiority of process goals over product goals in improving *quality* of writing. Despite this, Kiuhara et al. (2009) was the only study to refer to goals and then only in terms of products: "Establish specific goals for what students are to include in their written assignments" (p.158). They offered respondents the eight point scale from "never" to "several times a day" described above and used for all items in question eight of this current survey. No studies from the teacher survey literature review referred to process goals and so including them will provide information on this area. It was important to give examples in order to differentiate between the two concepts (See appendix 4.3).

Self-regulation alongside writing instruction leads to better outcomes than writing strategy alone (Brunstein & Glaser, 2011) and when part of a suite of interventions including peer and teacher feedback can lead to long-standing improvements in writing quality (Fidalgo, 2008). However, the only study to investigate self-regulation, at least in part, was Kiuhara et al. (2009). They considered the aspect of self-monitoring of progress towards goals: "Have students use self-monitoring strategies to monitor their writing performance and writing goals (e.g. rubrics and checklists)" (2009, p158). An eight point scale, "never" to "several times a day" was used. They omitted the self-control processes that go alongside this. For this survey, respondents were asked, on the same eight point scale, how often they: "Teach self-regulation i.e. how the student can generate thoughts, feelings and behaviours which are directed to attaining a specific goal e.g. Analysing the task, setting learning and/or task performance goals and choosing writing strategies related to genre features while adopting self-control processes that help focus on the task and optimize

effort" (see appendix 4.3). The definition was derived from a description of self-regulation in Fidalgo and Torrance (in press).

Co-operative learning approaches were next to be considered. They can have a large impact on writing skills (Durukan, 2011; Sahin, 2011) but were not directly included any of the studies of teacher beliefs and practices. Peterson et al. (2007) had asked interviewees the question: "Do you structure your writing classes so students talk to each other?" (p.375) and this would have allowed reference to these approaches. Having found some confusion over the term in piloting, it was necessary to provide a fuller explanation, emphasizing the structured nature of the activity. Respondents were asked how often they: "Use structured cooperative learning approaches like 'Jigsaw' where students work together on a common learning task, the task is divided up and students are assigned roles" (see appendix 4.3).

Collaboration was examined in the subsequent few items because it has been shown to have a large impact at elementary school (Graham et al., 2012; Graham et al., 2007) and a medium impact at high school (Graham et al., 2007), suggesting utility at both levels. Peterson et al. (2007) asked interviewees: "How much talking do students do in your writing classes" (p.375). One implication is that they supported each-others' learning rather than just chatted but even this is not necessarily collaborative. Collaborative writing was included, but unfortunately not defined, in Simmerman et al. (2012), who used the five point scale for use and value described above. In a clearer question, Kiuhara et al. (2009) described students collaborating and gave a definition: "Have students collaborate when writing (students work together to plan, draft, revise and edit)" (p.158) and allowed a response on the eight point scale from "never" to "several times a day". The latter two studies had students collaborating on *all* the stages of writing; not allowing for collaboration at just one, or some, of the stages - which can still be effective. For example, grade 4, 6 and 8 students helping each other revise texts led to large improvements (Boscolo and Ascorti, 2004). It was decided to allow for these variations by separating the stages into four discrete questions on planning, drafting, revising and editing; the first being: "Students help each other plan writing" (see appendix 4.3).

Peer evaluation was considered next, as there was confusion in the piloting process about whether it was teacher or peer evaluation that was being asked about. With the survey now being online rather than on paper there was the freedom to look at this area in more detail. Peer feedback, as it was termed, led to a medium impact on the writing skills of 6th graders (Olson, 1990, in Graham et al., 2007) and so was worthy of inclusion in this survey despite not producing a large effect. Respondents were asked to rate on the eight point scale how often: "Students evaluate each other's work" (see appendix 4.3). Peterson et al. (2007) had asked interviewees: "Do students give feedback to each other on their writing?" (p.375) but this gave no indication of frequency. That may have come up in discussion but the lack of a feedback scale would make comparisons and conclusions tentative. Somewhat mysteriously, Simmerman et al. (2012) restricted student feedback to just the content of the writing on the same five point scales for use and value given above. The question was further restricted by Kiuhara et al. (2009) to its use with "…students who are struggling with writing in your content-area classes…*.This should be beyond what you do with the other students in your class*" (p.159, italics added). Strictly speaking, this meant that respondents should not mention peer evaluation if it was part of their mainstream practice despite it being an effective mainstream intervention. The teachers were asked to rate on a five point scale, from "never" to "daily" how frequently they: "Have students conference with each other about their writing" (p.159). The question in this survey would address these concerns.

Information technology use was considered for the next five items, due to its evidenced impact upon writing, in Questions 10 and 11 with the eight point rating scale. Simmerman et al. (2012) invited respondents to rate the value and usage on the five point scale described above of "Technology based genres"; "Technology based reference tools" and within a broader item, "Personal writing (e.g. journals, logs, *blogs* etc.)" (italics added, p306). This laudably reflected the developing area of digital literacy (European Commission, 2012). The first item in this group combined elements from these, with the exception of the reference tools, so as to keep it in terms of outputs: "Provide IT for technology-based genres (blogs, emails, PowerPoints). Emails and PowerPoints were obvious additions given their ubiquity. Internet access must be one of the most extensive

technology-based reference tools available and so it was felt the next item should cover that aspect.

Individual laptop and internet access at home and school for a year had a large impact on writing quality for 6-7 graders (Lowther et al., 2003) and so a specific question on whether or not this was available in school was included: "Provide individual laptop/tablets with internet access when writing" (see appendix 4.3). The recently popularised tablets were added. Teachers might be unreliable at knowing what was available at home and so this aspect was omitted. Peterson et al. (2007) had asked interviewees a series of questions about computer and multimedia use at school and home. They inventively used typed-homework as an index of how often students use them at home: "Do you use multimedia and computers in teaching writing? If so, how? Do students use computers and multimedia comfortably when they complete writing projects at home? Talk about some examples of how they use computers and multimedia. What percentage hand in printed-out work rather than handwritten work for take-home assignments?" (p.375). Any percentage would of course be an estimate but in hindsight this may have been an interesting area to include in this survey.

Word processing access had a medium impact on quality at elementary and high school level (Graham et al., 2012; Graham et al., 2007) and Kiuhara et al.'s survey included just one question around IT: "Have students complete writing assignments using word processing" with an eight option scale from "never" to "several times a day" (2009, p158). Since some teachers may let children use IT to produce a final copy but not for the whole process, it was decided to ask if IT was provided at the drafting, revision and editing stages e.g. "Provide IT for producing drafts" (see appendix 4.3).

Increasing the time spent on writing had a small to medium impact on writing quality in Graham et al.'s (2012) meta-analysis so the final item in question 8 was an attempt to get a measure of how much time was devoted to this activity. Studies from the literature review considered frequency and/or lengths of time spend on writing and some differentiated between writing instruction and writing time. Graham et al. (2008) were only considering handwriting. They inquired about the length of sessions and frequency but the actual

questions were not included in the article. It can be deduced that respondents were asked to give the length of time in minutes and it appears that a rating scale was used to determine frequency. The remainder of these studies which did consider time were focused on writing time. Papoulia-Tzelepi et al. (2000) were surveying teachers in Greece which had a very prescriptive curriculum at that time and they were concerned with a programme, "I think and I write", for developing creative/expressive writing. It was not clear how much time overall was spent on writing. They asked teachers how much time they gave for the activity, whether they thought the suggested 15 minutes was adequate and if, not how much time should be allocated. Simmerman et al (2012) was the only other study to allow for this option, using the five point scale for use and value as described above. In other respects it was a poor question, being merely: "Daily Writing" (p.306). Peterson et al.'s interviews (2007) differentiated between time scheduled for "formal writing instruction" (p.374) and more general writing: "How much time do your students spend writing in a typical day?"(p.375). Brindley et al.'s survey also considered the broader area of writing (2002) asking respondents: "In your classroom how much time do children write every day?" (p.331). They used a five point scale: 5= more than two hours; 4= between 1½ -2 hours; 3= between 1-1½ hours; 2= between ½ - 1hour and 1= less than ½ hour. Of course, this assumed that children wrote daily. Kiuhara et al. (2009) focused solely on high school teachers. They broke writing down into 22 activities, such as "persuasive essay" or "stage/screen play" (p.157) with the option for additional activities to be added. An eight point rating scale was provided: never; once/year; once/semester; once/quarter; once/month; once/week; several times/week; daily. This was because the study was looking at different writing practices in different subject areas. For the present survey the item was: "Writing time where writing is the main focus" with the eight point scale used for all the items in question 8 (see appendix 4.3). This allowed for a frequency of more than once per day. Restricting the writing to that where writing was the main focus would exclude activities where the emphasis might not be on writing quality. The resulting data would be quite a broad estimation but nevertheless, it would give some measure of writing time in schools.

Question 9 considered the frequency of different aspects of the writing process. Process writing includes planning, drafting, revising, editing and publishing, and is a recursive

process (Scott et al., 2009). Kiuhara et al. (2009), in addition to a general question on process writing, offered separate questions on whether these strategies were *taught*, namely: planning; revising and editing. An eight point scale of "never" to "several times a day" was used (p.158). It was surprising that drafting was not included. Scott et al. (2009) also inquired about some of these areas in terms of whether students did them. They did not ask about planning specifically but instead a much broader area of activities: "Students did brainstorming/prewrites, such as idea webs, "fast writes," word games, etcetera". Drafts were considered, and revision but not editing, presumably because this was included in revision. They used a 5 point scale: 1= almost always; 2= more than half of the time; 3=about half of the time; 4=less than half of the time; 5= never or hardly ever. Scott et al. (2009) were the only study to specifically inquire about publishing. None of the articles from the literature survey used the description from the meta-analyses. For this survey, the frequency of use of the separate strategies of prewriting, drafting, revising, editing and publishing were explored. Respondents had to mark on a scale of zero to ten, where 10 = "always" and 0 = "never" (see appendix 4.3), how frequently the students engaged in the different activities. The first item combined pre-writing and planning in order to reflect practices that might happen at different ages and stages. Pre- writing was exemplified as "drawing pictures or making notes" (see appendix 4.3). The next three items similarly considered drafting, revising and editing with explanations given where appropriate, for example: " How frequently students check spelling, punctuation, grammar, syntax etc. of their text (edit/proofread) as part of the writing process" (see appendix 4.3). For the final item the word "publish" was omitted due to confusions that arose during piloting, where some teachers thought this might only mean publish as in the production of a book. This resulted in the item: "How frequently students make their work available to an audience, as part of the writing process" (see appendix 4.3).

Smart phones can increase motivation for homework (Kanala et al., 2013) and many students are likely to have personal access to them or other forms of information technology. During piloting it was noted that some teachers may be unable to use IT in the way they would wish to support writing, due to problems with availability. This issue also arose in Peterson et al.'s interviews (2007) when some teachers said they made little or no use of computers because they were often not working or it was difficult to access

computer labs. Teachers responding to Simmerman et al.'s survey had an opportunity to rate usage and value of "Technology based genres" and "Technology based reference tools" (p.306, 2012) on the five point scale described above. However, this was not coterminous with the use of IT to support writing. Furthermore, teachers valued IT more than they used it in that study, but why this might be was difficult to conclude given the lack of further information.

In an attempt to cover some potential reasons for a less than optimal use of IT from the teachers' perspective (should this also be the case in this area of southern Scotland), question 11 explored whether teachers might use different forms of IT more frequently if it were more freely available and if they had more training. None of these had been explored in studies identified in the teacher survey literature review. Each item consisted of a statement which the respondent could express agreement with on a ten point scale, with 10 being "strongly agree" and 0 being "strongly disagree" (see appendix 4.3). The first item was designed to see if the teachers felt students had enough IT access to support their writing, while the following five items examined whether teachers would provide different forms of IT more often if available. This is subtly different in that they might think students had sufficient IT access but would still benefit from having more or different forms to hand. The second item considered hardware which was relatively easy to type on: "I would provide more IT access to support student writing activities if there were more desktop computers, laptops, notebooks or netbooks available" (see appendix 4.3). Using the same sentence structure tablets were considered next, followed by smartphones/mobiles. These are small and relatively difficult to type on. Next came items to address the potential issue of hardware being out of date and poor internet speed and/or bandwidth. The authority where this study took place, as mentioned above, has areas ranging from urban to remote rural with all the difficulties which that can lead to. Finally in this section teachers were able to indicate whether their lack of training might be a barrier: "I would provide more IT access to support student writing activities if I had more training on how to do so" (see appendix 4.3). This would be useful for the authority to know when planning in-service training.

Since many students might have their own hardware it seemed relevant to ask if students were permitted to use it. A simple yes or no option was given for laptops, tablets, notebook or netbooks, mobiles or smartphones for question 10 (see appendix 4.3). None of the studies in the literature review for the teacher survey asked whether students were permitted to use their own hardware in school.

Adults assessing student's writing and providing feedback has been shown to improve writing quality (Graham et al., 2012; Schunk et al., 1991, 1993). Asking teachers to rate different aspects of how they evaluate writing should reveal what they value in writing and presumably what they focus their teaching on. This is significant because differences can be found in schools which serve populations of differing socio-economic status (SES). McCarthey et al. (2013) noted that teachers they interviewed in high SES area schools focused their teaching more on sophisticated aspects of writing (like fostering voice, highlighting reading-writing connections and developing rhetorical style) than their counterparts in low SES catchment areas who placed significantly more emphasis on grammar and mechanics and sentence construction. All the teachers focused on developing structure in writing. It would have been interesting to search for similar differences in this study but the SES of the respondents' schools could not be collected without losing anonymity. Kiuhara et al. (2009) asked high school teachers to tick which items applied when evaluating writing. The options were: use rubrics/holistic scales; use professional judgement and other. Just five percent identified other methods. They were peer evaluation, self-evaluation, plagiarism checking and output by page or sentence. None of these responses revealed what features of writing quality were actually being assessed.

Simmerman et al. (2012) allowed teachers to rate the value and use, on a five point scale described above, of content and mechanics separately. Rubrics and checklists were also provided as separate options. Papoulia-Tzelepi et al. (2000) attempted to address this area. Teachers were asked: "Do you believe that focusing on the content could ameliorate the students' ability in writing?" (p.75) and were asked a similarly structured question on spelling and "inappropriate expressions". The opportunity to respond more broadly was provided in the question: "What are your criteria for successful students' writings" (sic) (p.75). The authors made the largest theme "right expression" which covered fluency, use

of figurative language and clarity. This overarching theme had too many elements and so underscored the need for good questions. Other themes included: not being off topic; spelling; organization; vocabulary; cohesion, imagination/originality and appearance (neatness, good handwriting). So, in terms of what was being evaluated, the studies in the literature review which examined this area offered merely content, mechanics and an open question which was difficult to put into themes and quantify. This meant there would need to be sufficient items to provide for the most common features to be rated. Seven items were provided. In order to obviate any confusion about who would be doing the evaluation they all followed the structure "Evaluating *feature* when you assess writing" (see appendix 4c). A 10 point rating scale was provided, where 10= "very important" and 0 = "not at all important" (see appendix 4.3). Content (the word "ideas" was used instead) and mechanics, (given as "spelling, punctuation and grammar") were naturally included (see appendix 4.3). Organisation and voice had arisen in McCarthey et al. (2013) and were duly given an item each. Fluency had come up in Papoulia-Tzelepi et al. (2000). The 6+1 traits model of teaching includes "sentence fluency" (Coe et al., 2011) (p. 6) and this seemed a more explicit term. The additional trait is "presentation" which refers to the visual layout of electronic or published work rather than handwriting. Those unfamiliar with the model would be likely to think presentation included handwriting and it would be interesting to see how they contrasted. Therefore both handwriting and visual layout were included as items.

The next area to be considered addressed some beliefs about writing and teacher confidence in their ability to teach it. Question 13 began with an item on how much they valued writing: "Writing is an essential skill for students" (see appendix 4.3). A 10 point rating scale was provided, where 10= "strongly agree" and 0 = "strongly disagree" (see appendix 4.3) for all items in this section. Kiuhara et al. (2009) asked a similar question: "writing is an essential skill for after high school" (p.160). This was followed by similar questions around whether students were being prepared for university and the workplace. These three are slightly different in that they referred to the future whereas this item refers to both the future and the present. Peterson et al. (2007) somewhat misguidedly asked teachers to comment on the community's view of the importance of writing but not their own view. Graham et al. (2008) approached this by getting teachers to consider the consequences of

having poor abilities in this area, leading to a range of responses. The purpose of this item was to ascertain the value the teachers placed upon writing and it seemed reasonable to approach this directly.

The next item addressed whether students had the writing skills required to do their school work. Kiuhara et al. (2009) worded this well and so the same question was used in the present survey: "My students have the writing skills they need to do work in my class" (p.160). This will lend itself to interesting comparisons in due course.

The students' skills are by definition influenced by the effectiveness of the teachers at teaching writing. Papoulia-Tzelepi et al. (2000) and Peterson et al. (2007) both asked teachers to list their strengths and what they would like to change in their teaching of writing. Simmerman et al. (2012), asked teachers to indicate on a scale of one to ten, where one= most negative, ten= most positive, "…how you view yourself as a writer (not a teacher of writing)" (p.307). The curious parenthetic addition helped to prompt the wording of this item as the plain: "I am effective at teaching writing" (see appendix 4.3). No studies in the literature review asked this question directly.

How well training college, described as "formal preparation" (p.62) helped prepare teachers to teach handwriting was addressed by Graham et al. (2008), using a 7 point rating scale where 0= no preparation and 6= extensive preparation. However, adequacy and extensiveness are not necessarily the same. Kiuhara et al. (2009) used a better question in their survey of high school teachers: "I received adequate preparation in my teacher education program to teach writing in my content area" (p.160). A six point scale was offered: strongly agree; moderately agree; agree slightly; disagree slightly; moderately disagree; strongly disagree. They added a further question, using the same scale, for training received after college: "I have received adequate in-service training to teach writing in my content area" (p.160). The two questions from Kiuhara et al. (2009) were altered to reflect the fact that elementary teachers would also be surveyed with differences in terminology but were essentially the same. However, a rating scale using ten numbers, described above, was used to provide for more subtleties of responses, facilitate data analysis and keep the survey relatively simple to complete.

Finally in this section the teachers' attitudes towards writing were further considered. Scott et al. (2009) asked teachers' to rate emotions associated with teaching writing on a five point scale where 1= the most positive rating and 5= the most negative rating. Graham et al. (2008) asked respondents to rate the statement: "I like to teach handwriting" on a five point scale, where 1= "disagree strongly" and 5= "agree strongly" (p.62). Both of these only offered five responses. The 10 point scale described above was therefore used and teachers asked to rate the statement: "I enjoy teaching writing" (see appendix 4.3). "Enjoy" is deliberately a more powerful word than "like" in order to help stimulate a clear response.

Since the survey was to be sent to a large number of people the number of open questions was severely limited given the large number of potential responses and subsequent difficulties in collating and analysing the data. A proposed question had been, "The purpose of writing is…" but this had to be cut because with space for just one open question this would be too restrictive. Instead, respondents were invited to record any thoughts or comments. On the final page respondents were thanked again, reminded of its purpose, and given the opportunity to amend their answers before submission.

4.7 Data Analysis

Data was automatically collated by the Web Team of the regional authority using the Survey Monkey programme. Descriptive statistics were produced for each question, including the percentages for each option. Graphs and pie charts were used as appropriate. The demographic data (gender, total years teaching, elementary/high school, subjects taught) were compared with the teaching population as a whole in the region wherever possible in order to determine whether or not parametric inferential statistics, such as t-tests could be used reliably. If they could not, then Chi –Squared tests were used where relevant. Descriptive statistics were also used for the remainder of the multiple choice questions.

Comments and responses to the open question, "Do you have any other thoughts or comments?" were categorized into themes where possible and the frequencies recorded in a table.

Chapter 5: Teacher Survey Results

The response rate for the teacher survey will be given and considered. Then the responses to the different questions will be presented along with relevant descriptive and analytical statistics.

5.1 Response Rate and Demographic Information

5.1.1 Response Rate

The survey was attempted by a total of 416 respondents (see appendix 5.1). Respondents who had had not answered any writing questions at all were excluded from the data set. This resulted in 345 respondents (see appendix 5.2). This figure was used to calculate the overall response rate for the survey, which was 23.15% of the 1490 Local Authority- employed teachers in the region. The number of responses per question in this data set, ranged from 343 to 268 with a mean of 300.15. The response rate by gender and sector was calculated (see Table 5.1).

Table 5.1 Teacher Response Rates by Elementary or Primary Sector and Gender

Sector	**Number Of Female Teachers Completing Survey (Response Rate %)**	**Number Of Male Teachers Completing Survey (Response Rate %)**	**Total Number Of Teachers Completing Survey (Response Rate %)**
Elementary School	193 (30.4)	19 (30.1)	214* (30.7)
High School	90 (18.2)	41 (13.7)	131 (16.5)
Total	283 (25.0)	60 (16.5)	345(23.15)

*Two elementary respondents did not give gender

The overall response rate (23.15%) was low and must be borne in mind when interpreting the results. The response from different sectors was notably different: elementary teachers were twice as likely to complete the survey as high school teachers. This would suggest that findings for elementary teachers would be more reliable than for high school teachers.

5.1.2 Gender

Chi squared analyses revealed there were no statistically significant differences between respondents and the Local Authority teacher population in terms of gender at elementary level χ^2 (df=1, N= 214) = 0.02, p= 0.88, or high school level χ^2 (df=1, N=131) = 2.28, p= 0.13.

5.1.3 Length of Teaching Experience

The respondents' length of teaching experience (N=342) is shown in figure 5.1 (see p.139). The number of responses was greatest for those with more than 21 years of teaching experience, accounting for 35.6 % of the total. However, this was the largest category. The remainder were quite flatly distributed although a relatively large number of responses came from teachers with five to eight years' teaching experience. The Local Authority was not able to provide the lengths of teaching experience for teachers in the region. Instead, the observed distribution was compared with the theoretical distribution of equal numbers for each band. There were statistically very highly significant differences among responders in length of teaching experience χ^2 (df=5, N=342) = 97.36, p= 1.89441 x10^{-19}; reflecting the larger numbers in the 21 or more years category. This was also true when elementary teachers (χ^2 (df=5, N=212) = 49.28, p= 1.94 x10^{-9}) and high school teachers were considered separately (χ^2 (df=5, N=130) = 50.73, p= 9.78 x10^{-10}).

Respondents noted the grade levels of students they taught (see figure 5.2, p.139) using the Scottish descriptors of P1 (Primary 1; average age four years 11 months at start of academic year) to S6 (Secondary 6; average age 16 years 11 months at the start of the academic year). Teachers were able to select any number of grade levels. As mentioned in Chapter 5, the large number of small schools in the region meant many elementary teachers had composite classes. It was the norm for high school teachers to teach a range of grade levels.

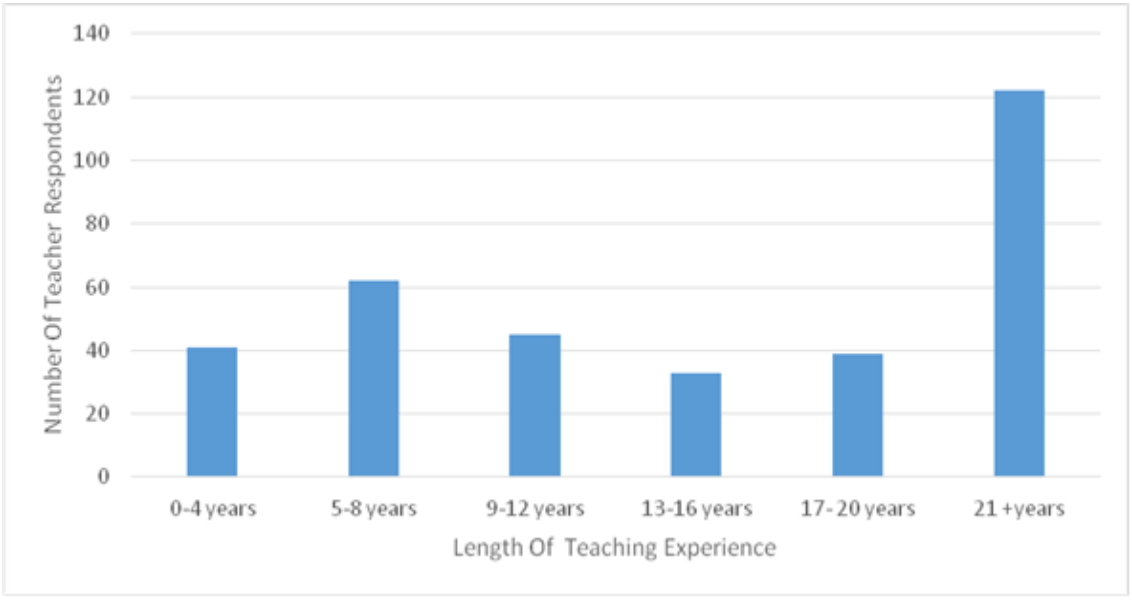


Figure 5.1 Length of Teaching Experience of Respondents

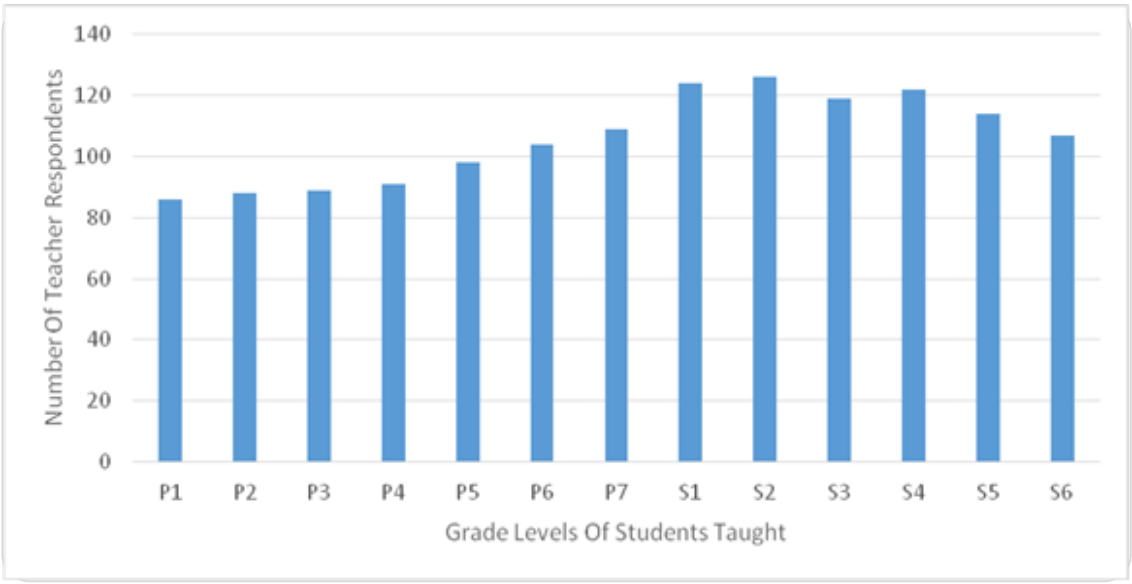


Figure 5.2 Respondents' Grade Levels Taught

5.1.4 Grades of Pupils Taught

The respondent sample was reasonably evenly distributed with a range of 86 to 126 teachers teaching at each grade level some of the time; meaning one can be reasonably confident that the sample is representative in terms of reflecting teachers of each grade level (N=344). The Local Authority did not have a record of the number of teachers who taught at each grade level. Head teachers decide which grade level teachers in their schools will teach and this can vary year on year. The distribution could have been compared against a theoretical flat distribution but as it is not clear that that is what would be expected there would be no utility in doing so.

5.1.5 Median Grade Level

Respondents were also asked to indicate which grade level was in the middle of the range of grades they currently teach, i.e. the median (see figure 5.3, p.141). The elementary respondents' median grades ranged from 23-38 while high school teacher respondents' ranged from zero to 53. The elementary median grades had a relatively flat distribution whereas the high school grades had a somewhat normal distribution, with a peak around the centre. These differences may reflect differences in the allocation of grades for teaching in the two sectors; with high school teachers more likely to teach across the sector thus resulting in median grades towards the centre of the range. Again, the Local Authority did not have a record of the number of teachers whose median grade level was at each grade.

5.1.6 Subject Specialism When Trained

Two elementary teachers had been trained as high school teachers but the majority of elementary teacher respondents reported that they had completed a "General Primary" degree (see table 5.2, p.137). Of these, some noted that they had completed specialisms. The specialisms were put into themes where possible. Given that the numbers of peripatetic teachers were known it may have been more useful to inquire of respondents if they were elementary class teachers or peripatetic teachers and if so, what their specialisms were. It was notable that no respondents gave physical education as a specialism while the other peripatetic areas were represented.

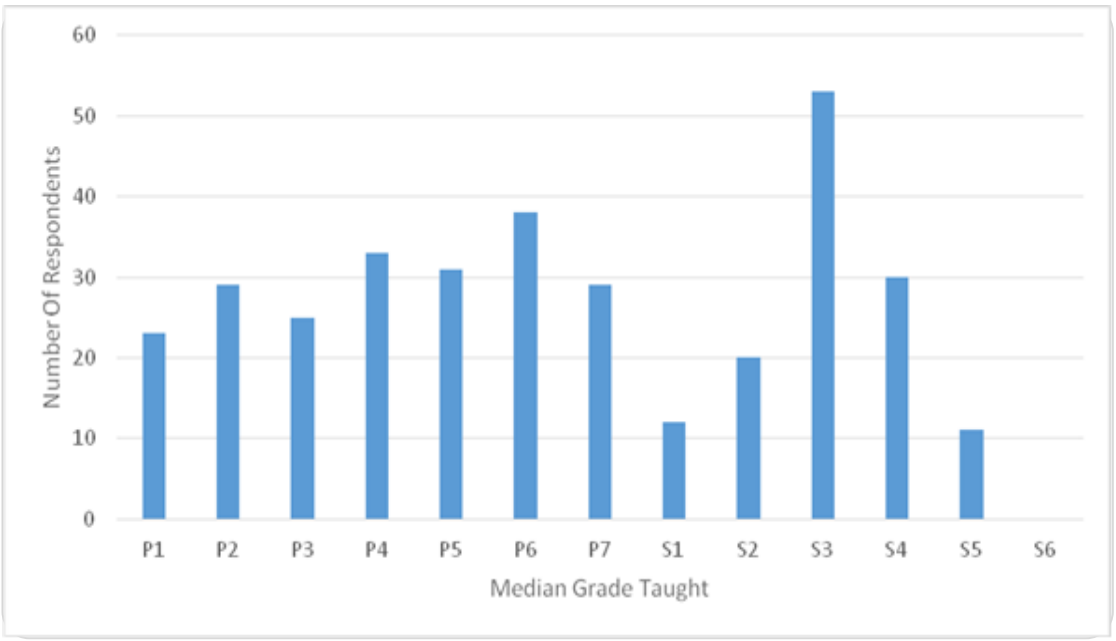


Figure 5.3 Median Grade Level Taught by Teacher Respondents

Table 5.2 Elementary Teacher Respondents' Degree Subject

Main Subject	**Number Of Elementary Teacher Respondents (Percentage Of Total Elementary Teacher Respondents)**
General Primary	209 (97.6)
Further Specialism If Given	
Additional Support For Learning / Inclusive Education/Learning Support / Special Needs / Learning Difficulties / Support For Learning	7 (3.2)
Art / Design / Celtic Studies & Art & Craft	4 (1.8)
English/English & Geography / Language & Literacy	3 (1.4)
Early Years / Early Childhood Studies	3 (1.4)
Maths / Maths & Science	3 (1.4)
"Post Grad"	1 (0.4)
Dance & Drama	1 (0.4)
Health Studies	1 (0.4)
History	1 (0.4)
Modern Languages	1 (0.4)
Music And Expressive Arts	1 (0.4)
Science	1 (0.4)

Of the 131 high school teacher respondents only 112 (86.1%) ticked the "secondary" (high school) teaching option but this may have related to difficulties with the layout of the survey due to technological limitations. When asked to report the high school subjects they were trained in 127 responded (97.6%). These were collated and placed into themes (see table 5.3). The most popular subject to have been trained in was English or English plus one or more other subjects. This could perhaps have been expected given the nature of the survey. This was followed by scientific subjects, ahead of social subjects, despite the latter having a clearer link to writing. The remaining areas reflected perhaps the links, or perceived lack of links, to writing and the less popular nature of the subject areas themselves. The subjects high school teachers were trained in were not known by the Local Authority.

Table 5.3 High School Teacher Respondents' Subject/s When Trained

High School Subject Trained In	**Number Of High School Teacher Respondents (Percentage Of Total High School Teacher Respondents)**
English / English & French / English & History/ English & Drama / English, History & Modern Studies/ English, History, Modern Studies & Religious Education / English, History, Modern Studies & Religious Studies	30 (22.9)
Science & Biology / Science & Biology & Chemistry/ Chemistry & Science/ Physics, Science & Maths/ Physics & Science / Physics & Maths / Physics / Biology	16 (12.2)
"Social Subjects" / History / History, Modern Studies / Modern Studies, History, Politics / Geography, Modern Studies / Geography / Modern Studies	14 (10.6)
Maths / Maths & Computing / Maths & Religious Education	10 (7.6)
Music / Instrumental	9 (6.8)
Technical Subjects /Technical Teacher / Technical Education / Technology/ Craft, Design & Technology	9 (6.8)
Business / Business Education / Business Management, Admin & IT / Business Education & Economics / Business Studies & Computing	8 (6.1)
French & Spanish / "Modern Languages" / French / French & German / French, German & Spanish	8 (6.1)
Religious Moral Education / Religious Studies / Religious Education / Religious Studies, Philosophy & Photography / Religious Moral Education, History, Modern Studies / Religious, Moral, Philosophical Studies / Religious Education, Personal And Social Education & History	8 (6.1)
Physical Education / Physical Education & Biology	4 (3.0)
Art & Design / Art	3 (2.2)
Computing /Computing & Business Education/ Computing & Additional Support	3 (2.2)
Drama	3 (2.2)
Certificate In Learning Support / Additional Support	2 (1.5)
Total	127 (97.6)

5.1.7 Subject/s Currently Teaching

Of the 214 elementary teacher respondents 110 recorded the subject/s they taught (51.4%) (see table 5.4). This low response may reflect that generally elementary teachers teach the full curriculum; what is termed the "Curriculum for Excellence" (Learning and Teaching Scotland, 2012). The Scottish Government states that every child is entitled to a "broad general education" (Learning and Teaching Scotland, 2012, p3) until the end of S3 (average age 13 years 11 months at the start of the academic year) and this synonym was also recorded.

Table 5.4 Elementary Teacher Respondents' Subject/s Taught

Subjects Taught	**Number Of Elementary Teacher Respondents (Percentage Of Total Elementary Teacher Respondents)**
All Subjects (plus synonyms)	92 (42.9)
English & Maths / Literacy & Numeracy	4 (1.8)
Additional Support For Learning	3 (1.4)
Art/Art & Design	3 (1.4)
All Except Technology	2 (0.9)
Literacy, Numeracy, Health & Wellbeing	2 (0.9)
All Except Music	1 (0.4)
All Except Religious And Moral Education	1 (0.4)
Nursery, Early Years	1 (0.4)
Writing, Health, Drama, Music, Maths	1 (0.4)
Total	110 (51.4)

The curriculum is divided into eight areas: expressive arts; religious and moral education; health and wellbeing; sciences; languages; social studies; mathematics; technologies. These were listed in some of the respondents' answers.

The Local Authority did not have data for number of teachers teaching different combinations of subjects at elementary level. However, they did have a record of the different types of elementary teachers (see table 5.5, p.144). Around half of the elementary teacher respondents did not answer this question and this has implications for validity. Nonetheless, it can be seen that the majority of respondents who chose to answer this question were general elementary teachers (primary teachers), as in the Local Authority as a whole. Further analysis was not done due to some categories having values less than five and only half of the sample answering the question.

Table 5.5 Elementary Teacher Totals by Type of Teacher for the Respondents and the Local Authority Teacher Population

Main Subject	**Number Of Elementary Teachers Respondents Who Answered This Question**	**Number Of Elementary Teachers In Local Authority**
Primary Teaching	104	633
Peripatetic Additional Support For Learning Teacher	3	17
Peripatetic Art & Design Specialist Teacher	3	16
Peripatetic Physical Education Specialist Teacher	0	17
Peripatetic Music Specialist Teacher	0	14
Total	110	697

All of the high school teacher respondents reported which subject/s they taught. The Local Authority had high school teacher totals by subject area, using Scottish Government provided categories. They did not include management staff or supply teachers. Using these same categories would allow some comparisons to be made (see table 5.6). Where multiple subjects were given they were shared out equally across the appropriate categories. Therefore an assumption was made that they were taught in equal percentages. One respondent recorded, "supply teaching" while another noted, "school management". These were not included. An assumption was also made that respondents worked full time. One respondent recorded "Part-Time" and so a figure of 0.5 was used. One respondent recorded "social subjects" and so that share was divided equally between Geography, History and Modern Studies. The Learning Support, Additional Support Needs (ASN) General and ASN Behavioural Support categories used by the Scottish Government were rarely used by respondents; only one respondent used the term "Learning Support". The others used "ASL" (meaning Additional Support for Learning) and Additional Support Needs (variant unspecified). Given this confusion, it was decided to combine all the responses under the term "Additional Support for Learning". The "other" column was unspecified by the Scottish Government. It was decided to include respondents' subjects of "employability", "ASDAN" and "thinking skills" under this column, although it is not certain whether the Scottish Government would have placed them there.

The expected proportions of subjects taught were calculated (see table 5.6) based on the 697 High School Teachers in the Local Authority who were not Depute Heads/Head Teachers (who would rarely teach) and for whom data was available. An assumption was made that no High School Depute Heads or Head Teachers took part in the survey.

Table 5.6 Observed and Expected High School Teacher Respondent Subject Areas Taught (N=129)

Subject Area	**English**	**French**	**German**	**Other Modern Languages**	**Maths**	**Biology**	**Chemistry**	**Science (General)**	**Physics**	**Geography**	**History**	**Religious Education**
Number Of High School Teacher Respondents' Pro Rata Subjects Taught	28.16	6.00	1.50	1.50	13.00	3.75	2.00	5.41	3.33	2.02	5.41	6.25
Expected Number Of High School Teacher Respondents' Pro Rata Subjects Taught	14.99	6.29	0.55	0.74	13.14	7.77	4.99	0.55	4.44	4.81	6.84	3.88
Subject Area	**Business Education**	**Computing**	**Home Economics**	**Technical Education**	**PSE / Guidance**	**Art and Design**	**Music**	**Physical Education**	**Drama**	**Additional Support For Learning**	**Modern Studies**	**Other**
Number Of High School Teacher Respondents' Pro Rata Subjects Taught	6.10	4.81	0.5	9.58	3.91	3	7	2.75	3	4.83	5.36	0.66
Expected Number Of High School Teacher Respondents' Pro Rata Subjects Taught	4.81	1.66	6.29	8.32	0.55	6.10	5.36	11.10	3.33	8.69	3.14	0.55

Perusal of the figures showed numerous subject areas where the numbers were markedly higher or lower than would be expected. This was taken into account when drawing conclusions.

There were notably proportionately more English, Computing, Religious Education, Modern Studies, Science (General) teachers who responded than would be anticipated. The interest shown by Computing and Science (General) teachers in particular might not have been predicted from assumptions about the subject area; although all teachers have a responsibility to teach writing.

Similarly, there were markedly fewer Home Economics, Physical Education, Art and Design, Biology, Chemistry, Geography and Additional Support for Learning (ASL) Teachers who responded. The first three of these subjects do not have strong traditional associations with literacy but the low response from ASL teachers was surprising as teaching literacy would, one imagines, be a large part of what they do.

No further analysis was made due to the numbers for some subjects being below five.

5.1.8 Number on School Roll

Local Authority data on school population size was available. As mentioned in Chapter 4, the response options provided were deliberately constructed in order to prevent identification of individuals. At that time the number of teachers in each school was not known. In addition, for ease of administration elementary and high school data was collected using just one question. An assumption was made that respondents knew the numbers on roll in their schools.

No elementary school in the Local Authority had more than 388 students on roll and no elementary teachers reported that their school had more than 400 students. The categories above 400 were therefore disregarded.

The total number of elementary teachers under this variable was higher (791) than the known number of elementary teachers in the Local Authority (697) (see table 5.7 below). The known number of teachers did not count the same teacher more than once;

this would have happened for teachers who taught in more than one school. The expected numbers of teachers were calculated and a χ_2 test performed. No statistically significant differences were found (χ_2 (df=7, N= 210) = 11.73, p= 0.10).

Table 5.7 Elementary Teacher Totals by Number of Students on Roll for the Respondents and the Local Authority Teacher Population

Students On Roll	**1 – 50**	**51-100**	**101 - 150**	**151 - 200**	**201-250**	**251-300**	**301-350**	**351-400**	**Total**
Number Of Elementary Teacher Respondents	46	43	19	32	24	15	24	7	210
Expected Number Of Elementary Teacher Respondents	35.12	35.37	16.17	36.38	22.74	20.97	30.57	12.63	210
Elementary Teachers In the Local Authority	20	68	33	41	40	147	110	185	791

High school teachers were considered next. At least five high school teachers had indicated their school had a population in a band which the authority reported no teachers in. These five were all in schools with student populations of 200 or lower.

Moreover, the number of teachers per school at high school level meant that some bands of school numbers had values of zero. These lower-numbered bands were combined to facilitate the reliable use of the χ_2 test. A statistically very highly significant difference was found between the observed and expected numbers of respondent teachers in schools of different student population sizes, χ_2 (df=8, N= 130) = 39.87, p= 3.38 x10^{-6} (see figure 5.4). There were notably fewer teachers who responded whose schools had student populations of 401-550, 201-250 and notably more whose schools had student populations of 251-300 and 551-700.

An explanation for the greater validity of the elementary school data might be that the response rate for elementary teachers (30.7%) was markedly higher than the high school respondents (16.5%) (see table 5.1, p.137).

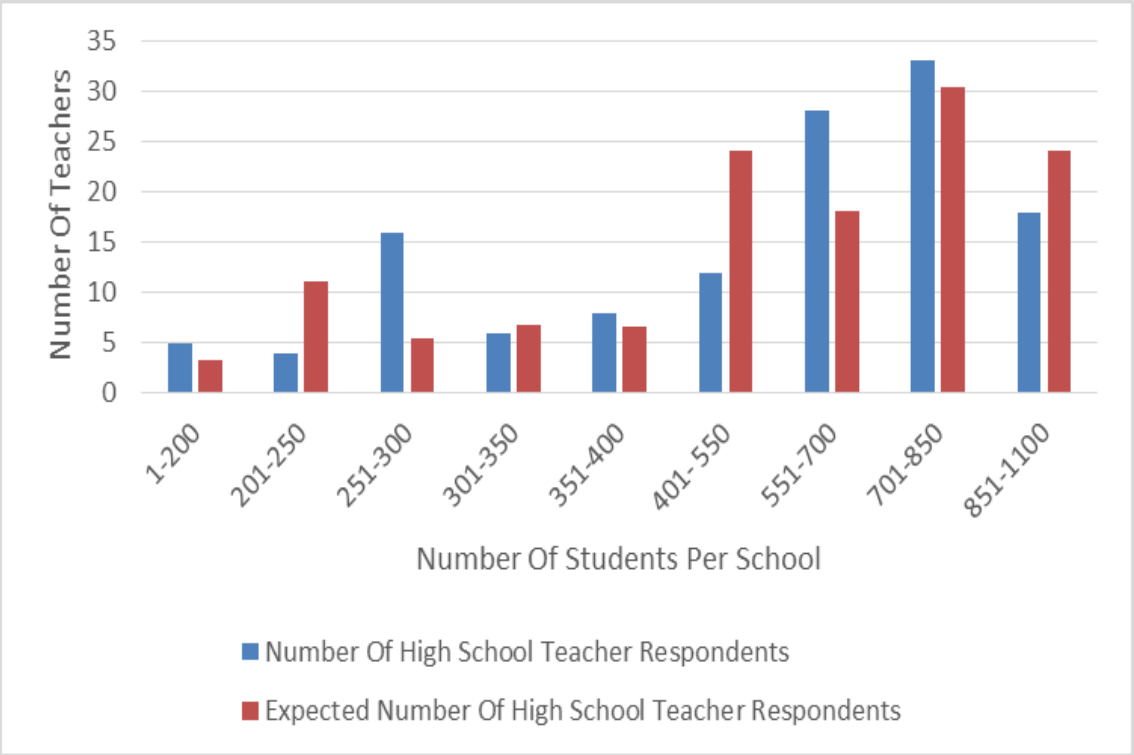


Figure 5.4 Number and Expected Number of High School Teacher Respondents

5.2 Use of Writing Teaching Practices

5.2.1 Teach Summarisation Skills

The frequency that summarisation skills were reportedly taught by the respondents was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ_2 (df=7, N= 299) = 1559.70, p= 4.01 x10^{-49}).

The most popular response from the teacher respondents was “several times a year” (n=115) (see figure 5.5 p.149). This was followed by “never” (n=46) and “several times a month” (n=39). The least popular response was “several times a year” (n=1).

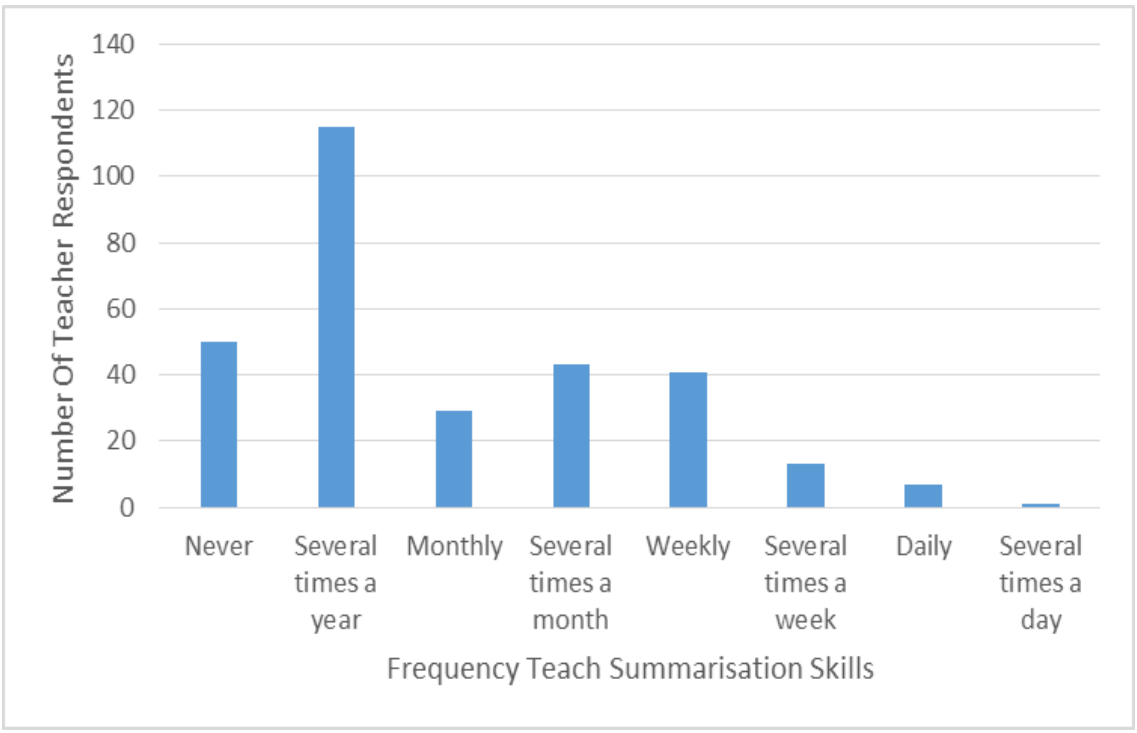


Figure 5.5 Teacher Respondents' Reported Frequency of Teaching of Summarisation Skills

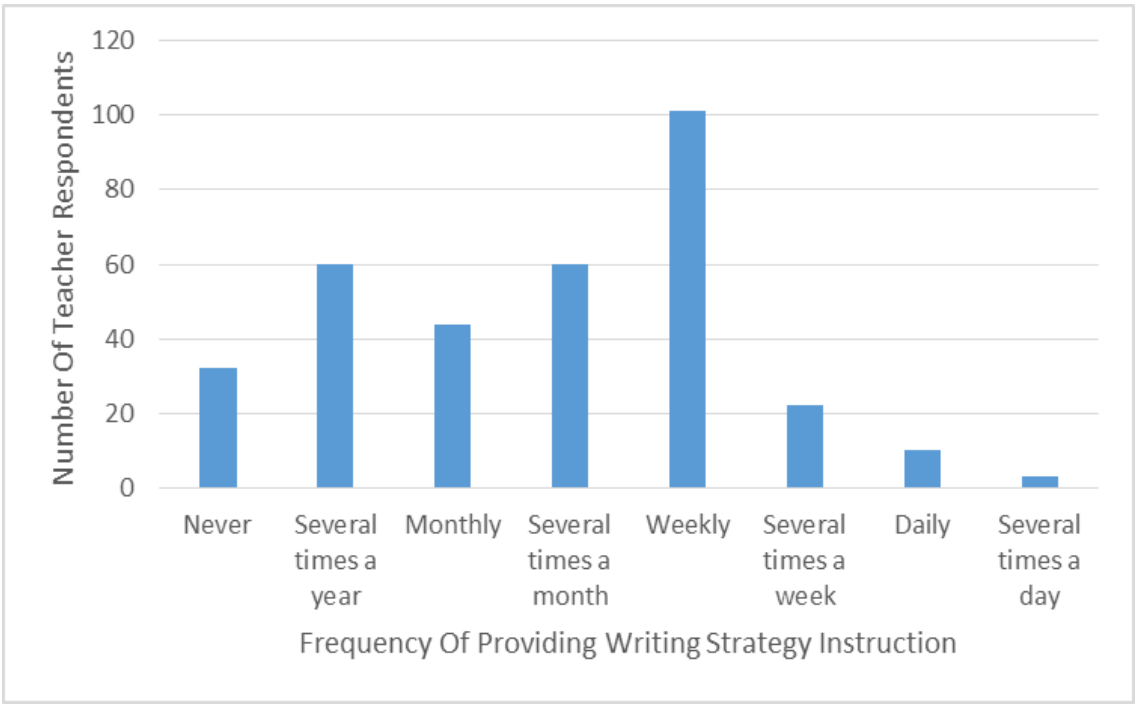


Figure 5.6 Teacher Respondents' Reported Frequency of Provision of Writing Strategy Instruction

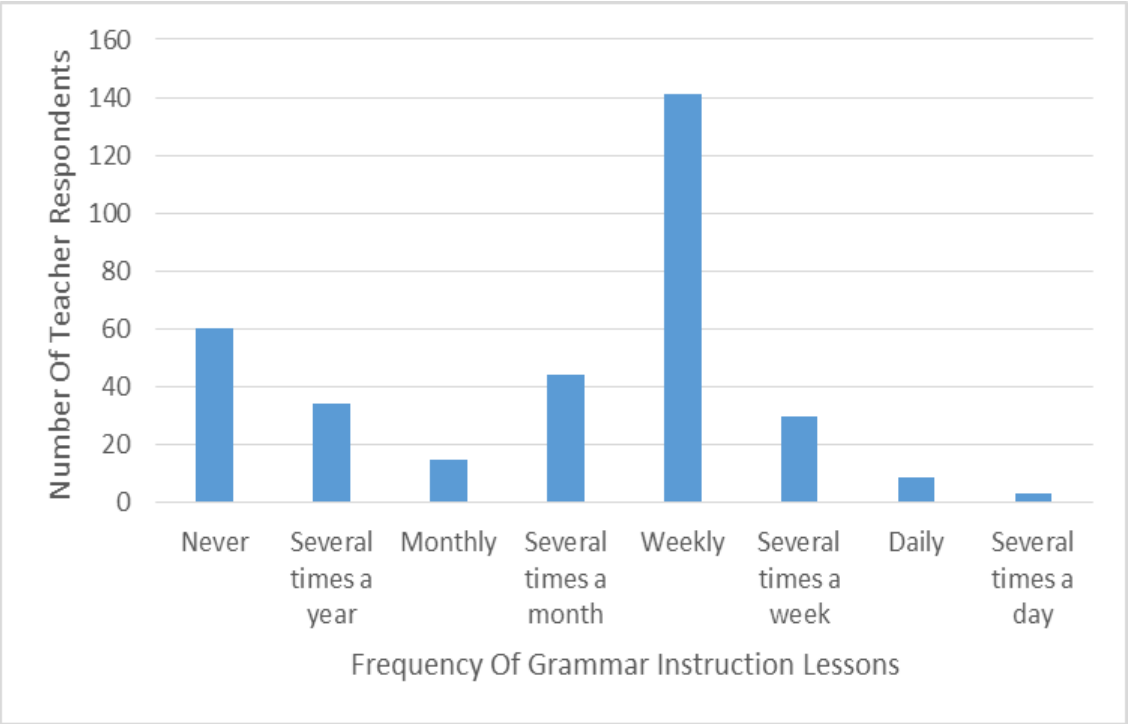


Figure 5.7 Teacher Respondents' Reported Frequency of Provision of Grammar Instruction Lessons

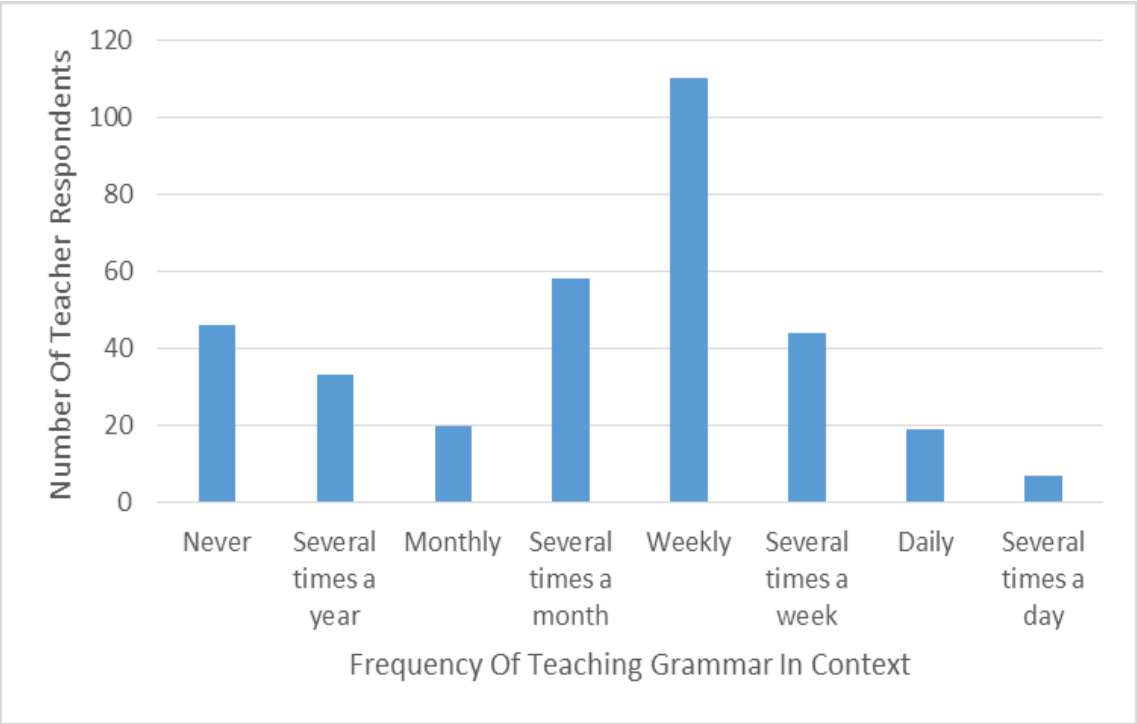


Figure 5.8 Teacher Respondents' Reported Frequency of Teaching of Grammar in Context

5.2.2 Provide Writing Strategy Instruction (One or More of Planning, Drafting, Revising, Editing)

The frequency with which writing strategy instruction was provided by the teacher respondents was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=332) = 172.91, p= 6.09 x10^{-34}). The most popular response was "weekly" (n=101) (see figure 5.6, p.149).

5.2.3 Grammar Instruction Lessons

The frequency that grammar instruction lessons were provided by the respondents was compared with a theoretical distribution of equal values. There was a statistically very highly significant difference (χ^2 (df=7, N=336) = 325.61, p= 2.02 x10^{-66}). The most popular response was "weekly" (n=141) (see figure 5.7, p.150).

5.2.4 Teach Grammar in Context

The frequency with which grammar instruction lessons were provided by the respondents was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=337) = 171.36, p= 1.29 x10^{-33}). The most popular response by some margin was "weekly" (n=110) (see figure 5.8, p.150).

5.2.5 Visualisation/Imagery Instruction

The frequency with which visualisation/imagery instruction lessons were provided by the respondents was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=340) = 330.4, p= 1.92 x10^{-67}). The most popular response was "never" (n=125) while a notable number reported "Several times a year" (n=95) (see figure 5.9, p.152).

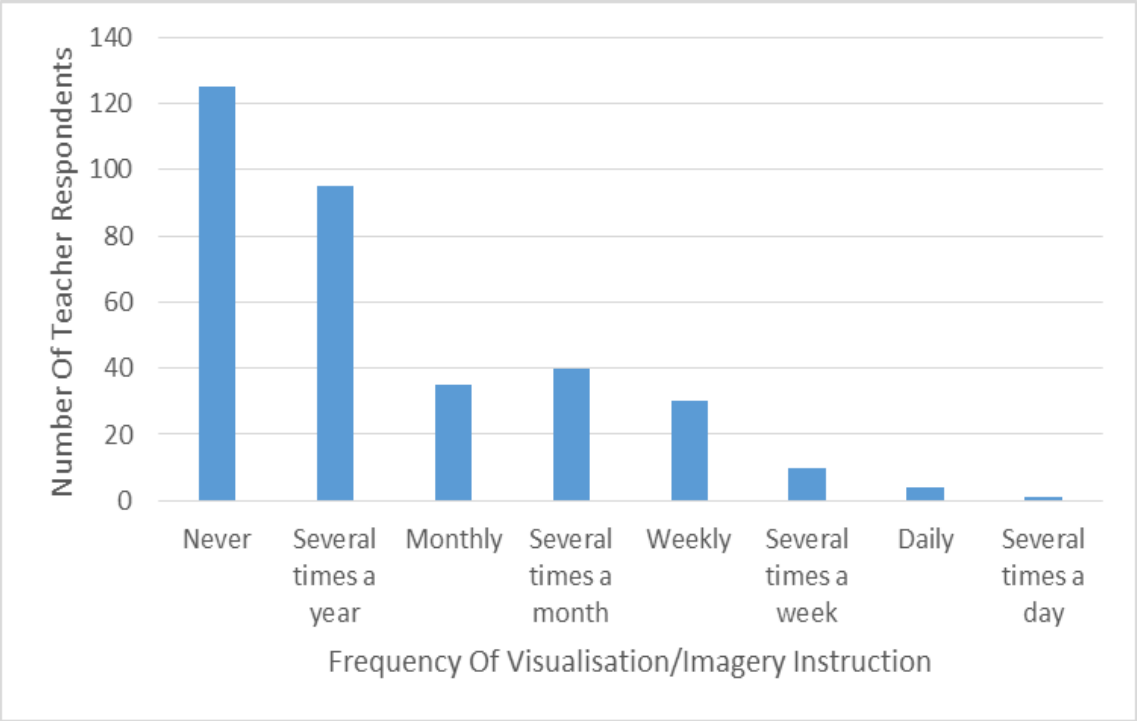


Figure 5.9 Teacher Respondents' Reported Frequency of Provision of Visualisation/Imagery Instruction

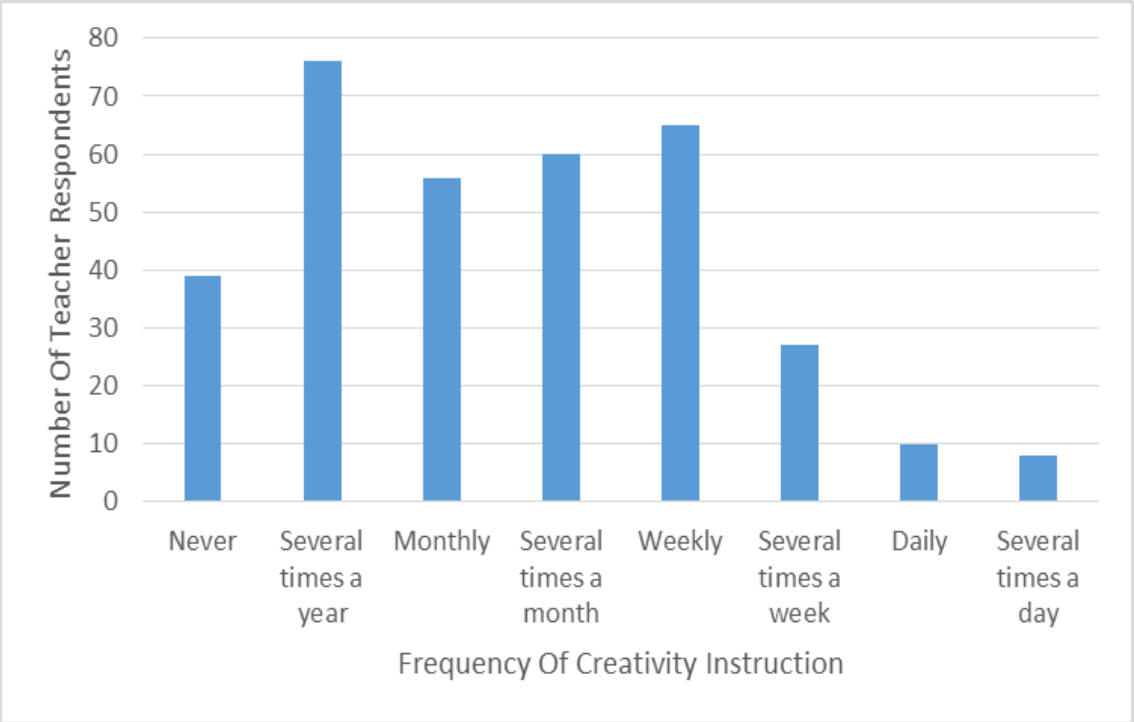


Figure 5.10 Teacher Respondents' Reported Frequency of Provision of Creativity Instruction

5.2.6 Creativity Instruction

The frequency with which creativity instruction lessons were provided by the respondents was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=341) = 108.29, $p = 2.07 \times 10^{-20}$). The most popular response was "several times a year" (n=76) while a notable number reported "weekly" (n=65) (see figure 5.10, p.152).

5.2.7 Provide Teacher or Assistant Feedback (or Feedback from Trained Parents) When Assessing Writing

The frequency with which teacher, trained parents or assistant writing feedback was provided was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=340) = 144.89, $p = 4.78 \times 10^{-28}$). The most popular response was "weekly" (n=107) (see figure 5.11, p.154).

5.2.8 Use Process Goals (Learning Goals)

The frequency with which process goals (learning goals) were used was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=343) = 124.28, $p = 9.78 \times 10^{-24}$). The most popular response was "weekly" (n=81) while a notable number reported "never" (n=68) (see figure 5.12, p.154).

5.2.9 Use Product Goals (Performance Goals)

The frequency with which product goals (performance goals) were used was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=342) = 149.04, $p = 6.45 \times 10^{-29}$). The most popular responses were "weekly" (n=86) and "never" (n=82) (see figure 5.13, p.155).

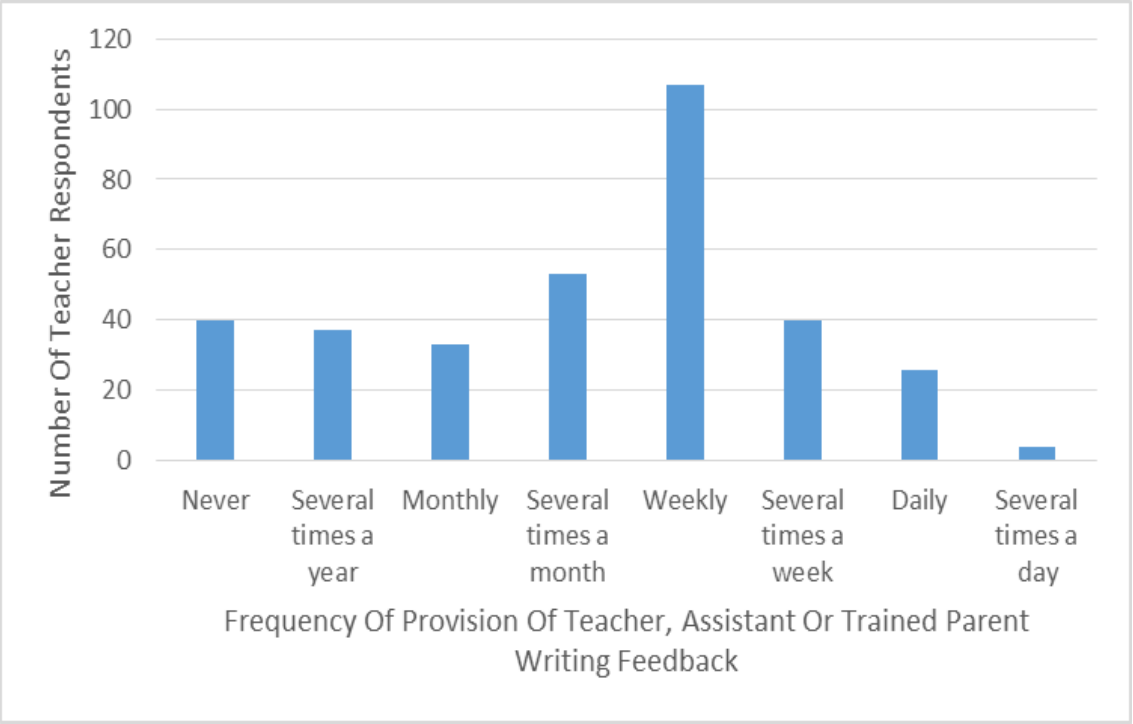


Figure 5.11 Teacher Respondents' Reported Frequency of Provision of Teacher, Assistant or Trained Parent Writing Feedback

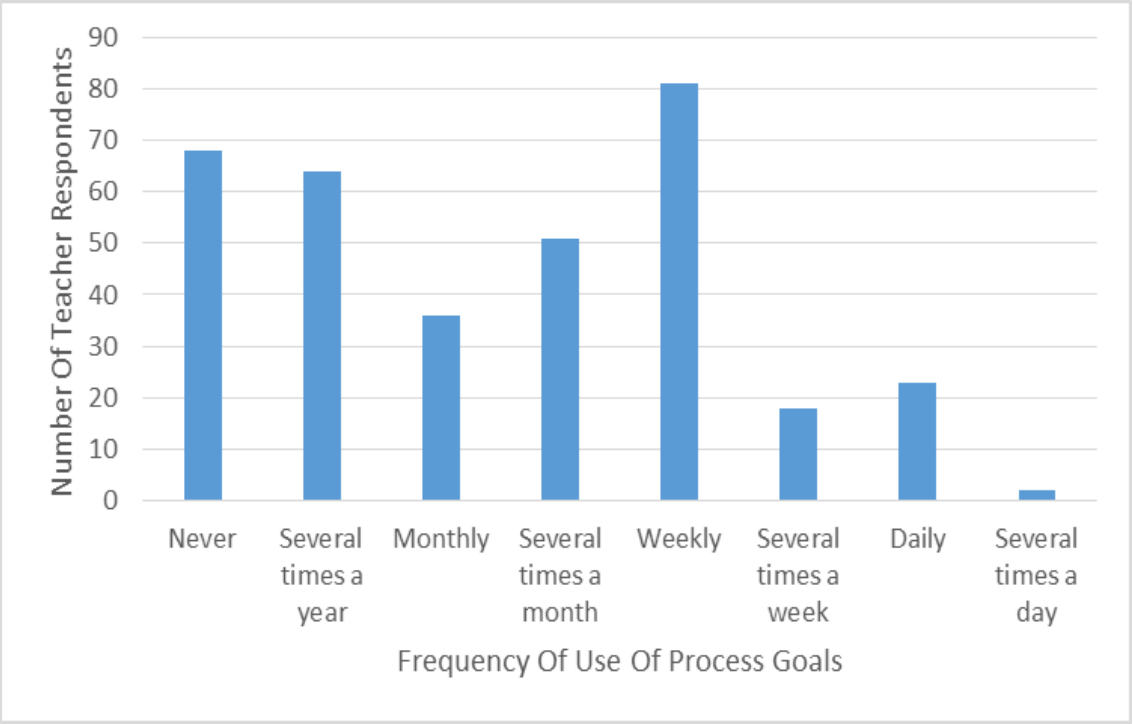


Figure 5.12 Teacher Respondents' Reported Frequency of Use of Process Goals

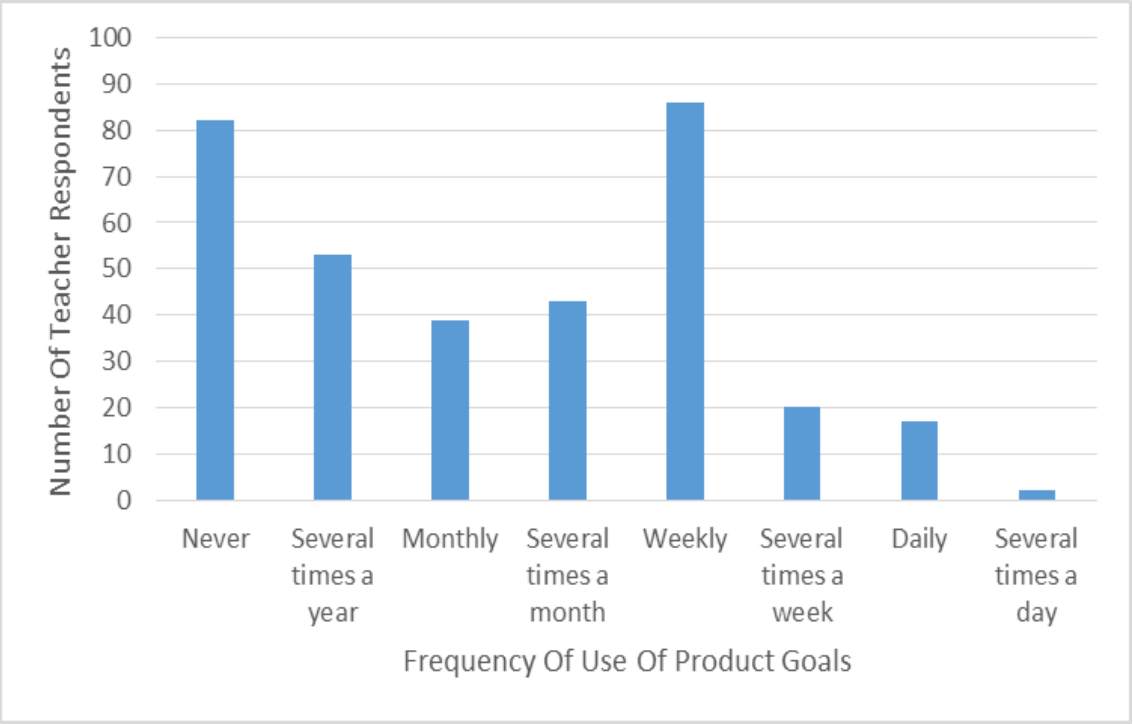


Figure 5.13 Teacher Respondents' Reported Frequency of Use of Product Goals

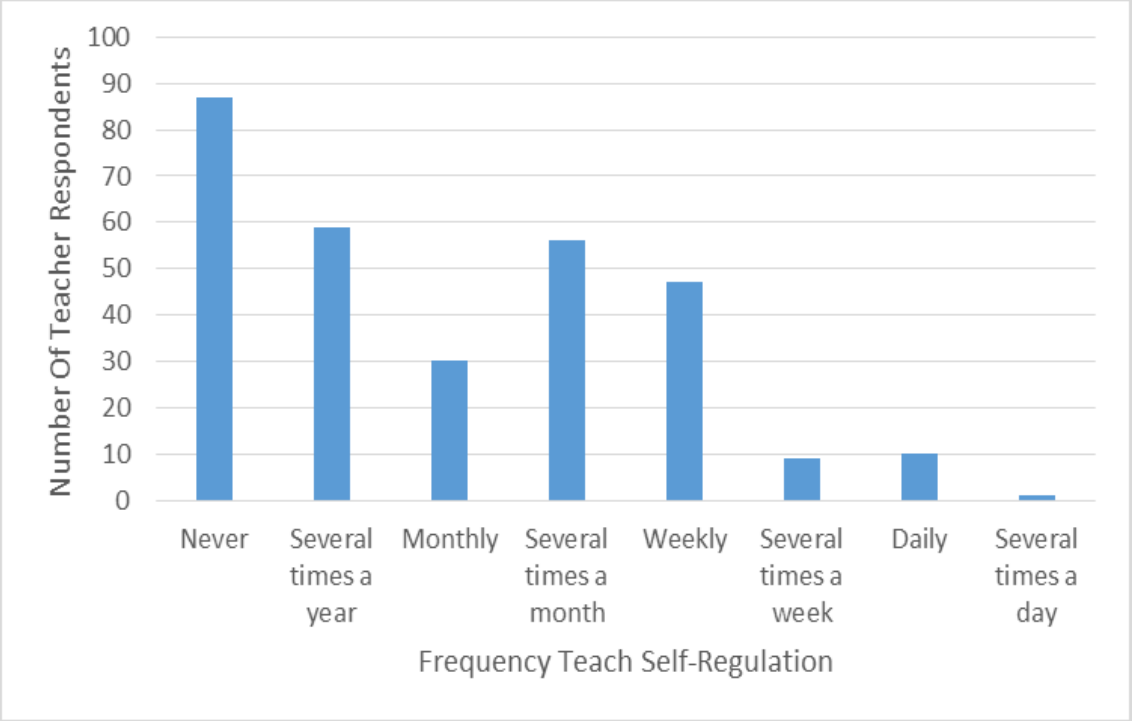


Figure 5.14 Teacher Respondents' Reported Frequency of Teaching of Self-Regulation

5.2.10 Teach Self-Regulation

The frequency with which self-regulation was taught by the respondents was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ_2 (df=7, N=299) = 168.61, p= 4.92 x10^{-33}). The most popular response was "never" (n=87) although sizeable numbers reported "several times a year" (n=59), "several times a month" (n=56) and "weekly" (n=47) (see figure 5.14, p.155).

5.2.11 Use Structured Co-operative Learning Approaches

The frequency with which structured co-operative learning approaches were used was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ_2 (df=7, N=309) = 262.62, p= 5.67 x10^{-53}). The most popular response was "several times a year" by some margin (n=113) (see figure 5.15, p.157).

5.2.12 Students Help Each Other Plan Writing

The frequency with which students help each other plan writing was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ_2 (df=7, N=313) = 204.03, p= 1.60 x10^{-40}). The most popular responses were "several times a year" (n=94) and "never" (n=70) (see figure 5.16, p.157).

5.2.13 Students Help Each Other Draft Writing

The frequency with which students help each other draft writing was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ_2 (df=7, N=309) = 305.18, p= 4.71 x10^{-62}). The most popular response was "never" (n=102) closely followed by "several times a year" (n=95) (see figure 5.17, p.158).

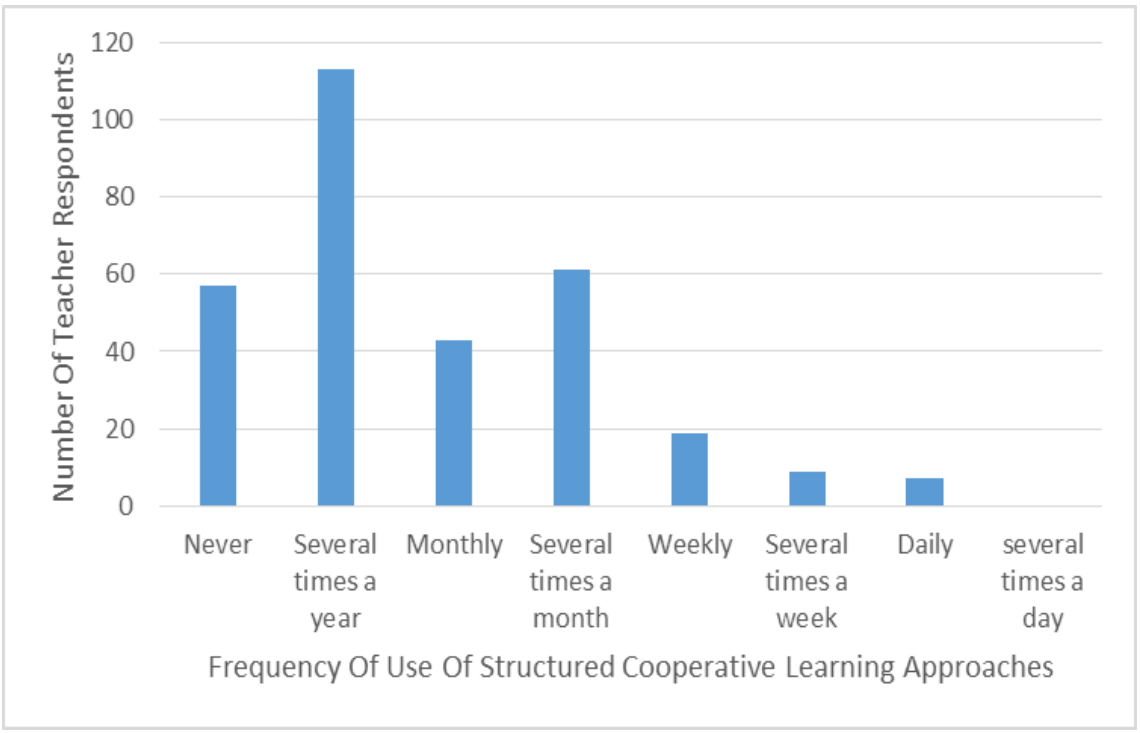


Figure 5.15 Teacher Respondents' Reported Frequency of Use of Structured Co-operative Learning Approaches

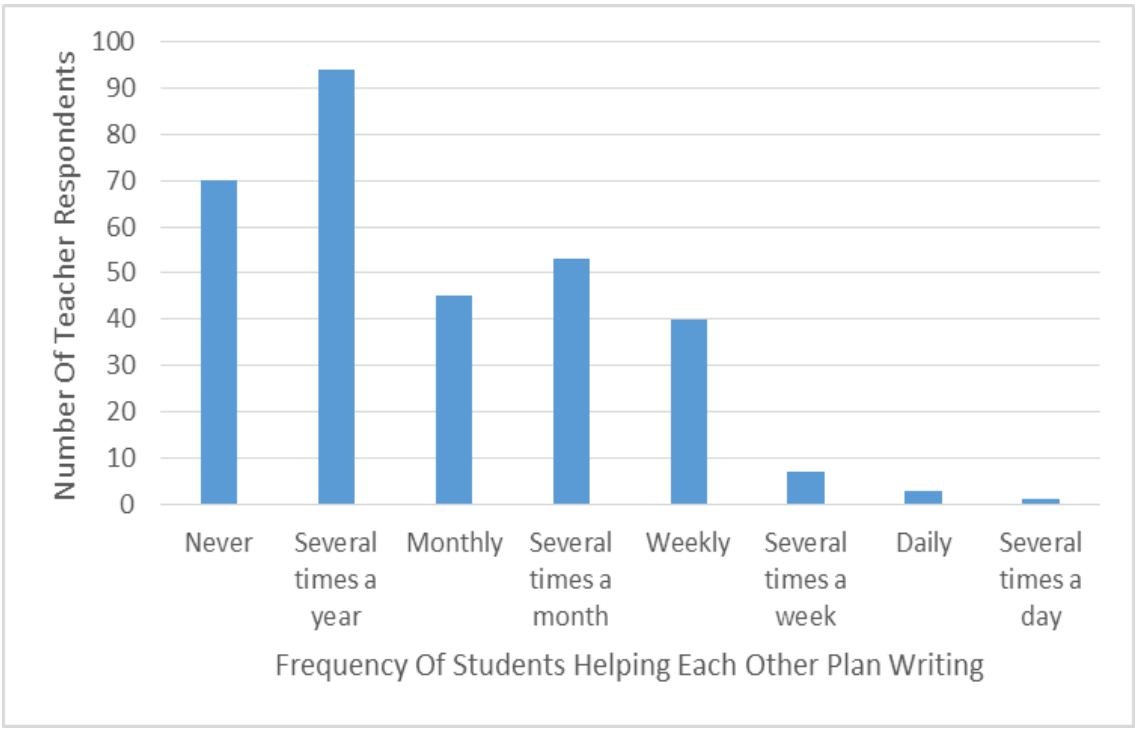


Figure 5.16 Teacher Respondents' Reported Frequency of Use of Students Helping Each Other Plan Writing

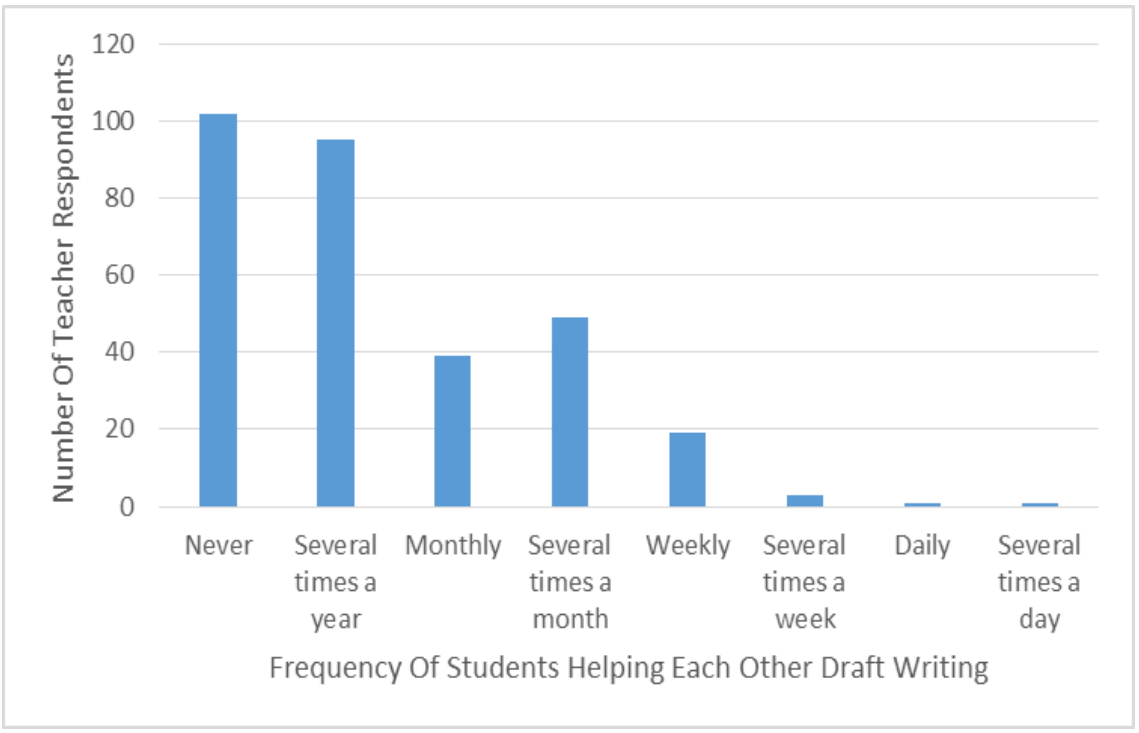


Figure 5.17 Teacher Respondents' Reported Frequency of Use of Students Helping Each Other Draft Writing

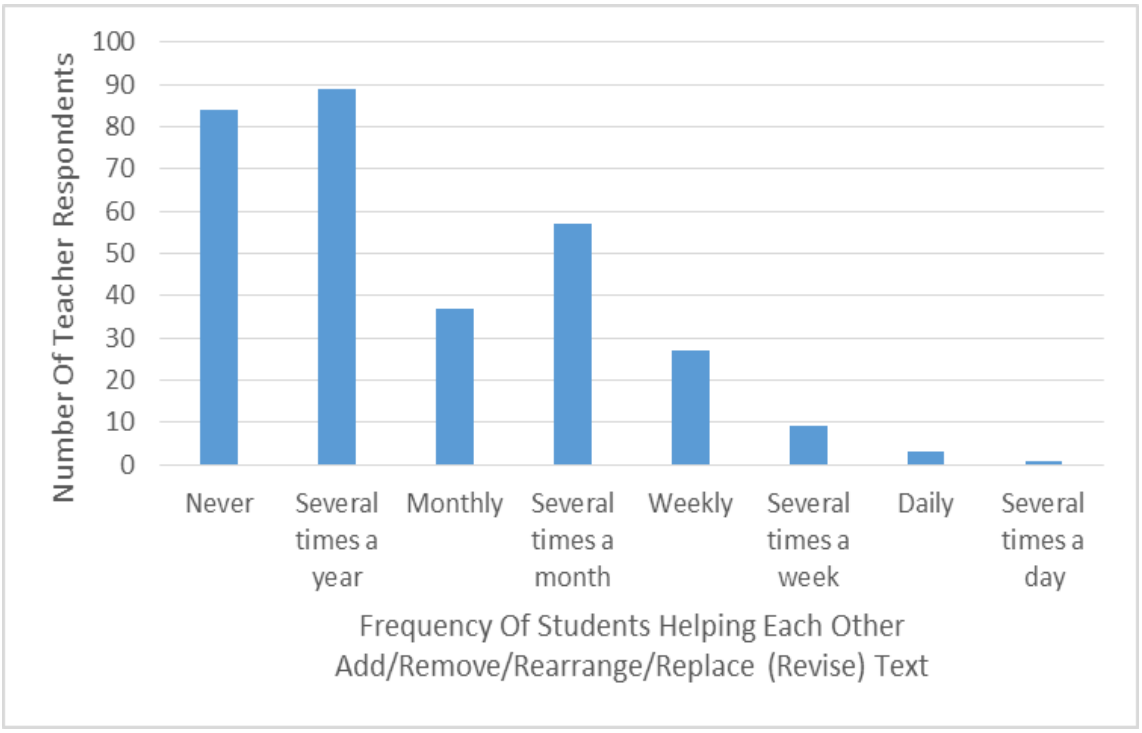


Figure 5.18 Teacher Respondents' Reported Frequency of Use of Students Helping Each Other Add/Remove/Rearrange/Replace (Revise) Text

5.2.14 Students Help Each Other Add/Remove/Rearrange/Replace (Revise) Text

The frequency with which students help each other add/remove/rearrange/replace (revise) text was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=307) = 224.98, $p = 5.76 \times 10^{-45}$). The most popular responses were "several times a year" (n=89) and "never" (n=84) (see figure 5.18, p.158).

5.2.15 Students Help Each Other Check Spelling, Punctuation, Grammar, Syntax (Edit/Proofread)

The frequency with which students help each other check spelling, punctuation, grammar, syntax of text (edit/proofread) was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=312) = 145.23, $p = 4.06 \times 10^{-28}$). The most popular response was "several times a month" (n=76). "Several times a year" (n= 69), "never" (n=53) and "weekly" (n=52) were also quite popular (see figure 5.19, p.160).

5.2.16 Students Evaluate Each Other's Work

The frequency that students evaluate each other's work was compared with a theoretical distribution of equal values. There was a statistically very highly significant difference (χ^2 (df=7, N=308) = 175.94, $p = 1.39 \times 10^{-34}$). The most popular response was "several times a month" (n=85). Notable numbers of teacher respondents reported "several times a year" (n= 65), "monthly" (n=58) and "weekly" (n=56) (see figure 5.20, p.160).

5.2.17 Provision of Information Technology for Technology-Based Genres

The frequency that respondent teachers provide IT for technology-based genres was compared with a theoretical distribution of equal values. There was a statistically very highly significant difference (χ^2 (df=7, N=307) = 175.42, $p = 1.80 \times 10^{-34}$). The most popular response was "several times a year" (n=101) (see figure 5.21, p.161).

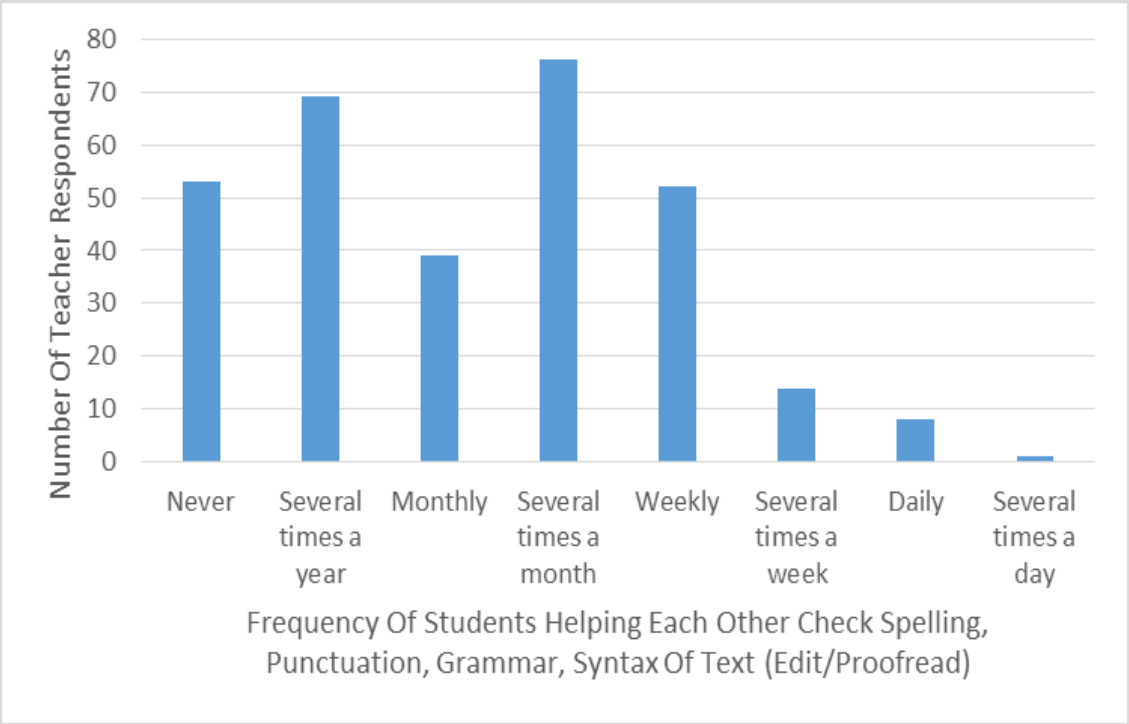


Figure 5.19 Teacher Respondents' Reported Frequency of Use of Students Helping Each Other Check Spelling, Punctuation, Grammar, Syntax Etc. of Text (Edit/Proofread)

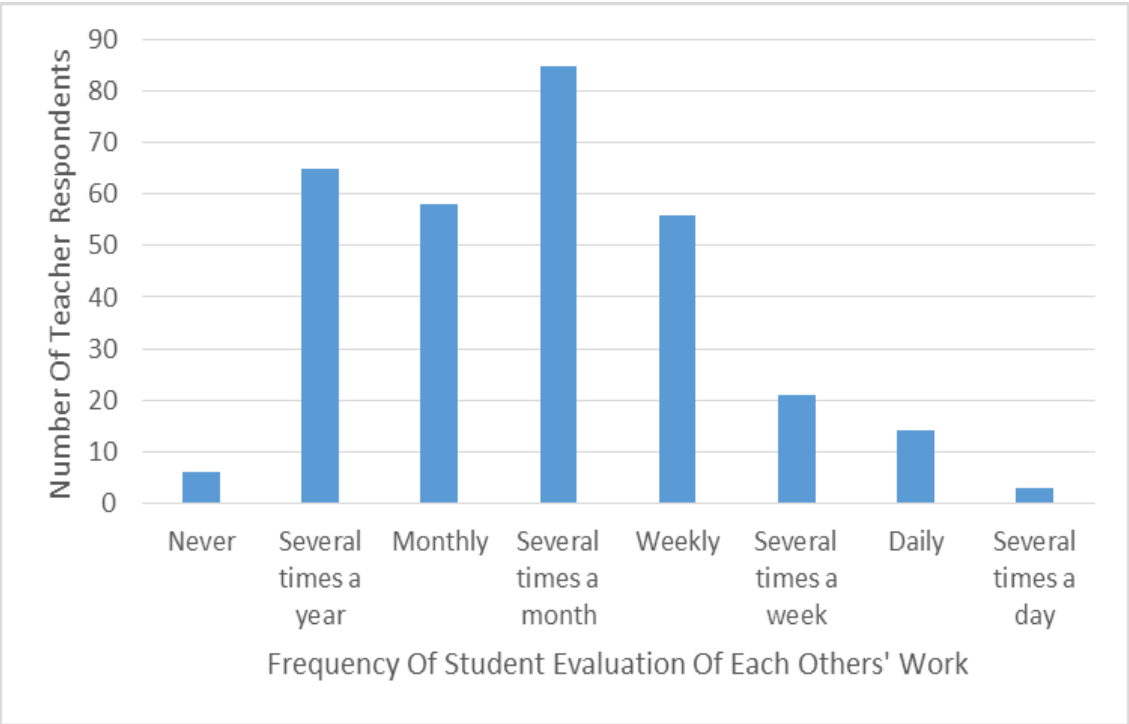


Figure 5.20 Teacher Respondents' Reported Frequency of Student Evaluation of Each Other's Work

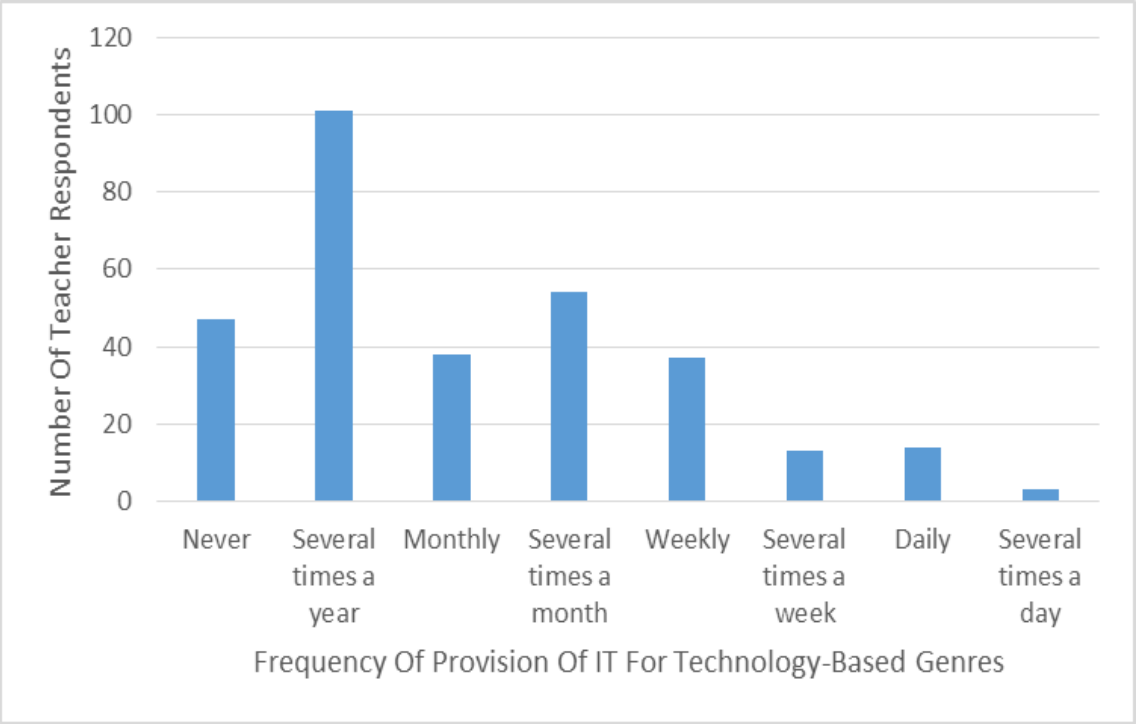


Figure 5.21 Teacher Respondents' Reported Frequency of Provision of IT for Technology-Based Genres (Blogs, Emails, and PowerPoints)

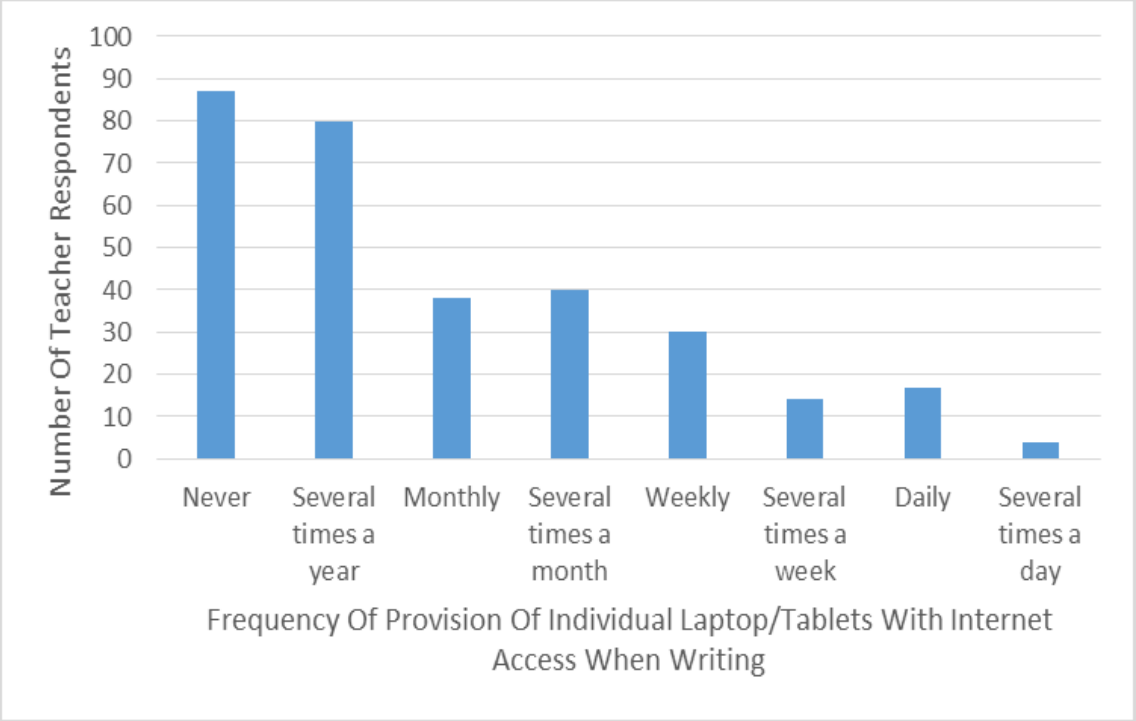


Figure 5.22 Teacher Respondents' Reported Frequency of Provision of Individual Laptop / Tablets with Internet Access to Students When Writing

5.2.18 Provision of Individual Laptop / Tablets with Internet Access When Writing

The frequency with which respondent teachers provide individual laptop / tablets with internet access when writing was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=310) = 165.2, $p = 2.57 \times 10^{-32}$). The most popular response was "never" (n=87) closely followed by "several times a year" (n=80) (see figure 5.22, p.161).

5.2.19 Provision of Information Technology for Producing Drafts

The frequency with which respondent teachers provide IT for producing drafts was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=304) = 169.52, $p = 3.15 \times 10^{-33}$). The most popular responses were "several times a year" and "never" (n=82) (see figure 5.23, p.163).

5.2.20 Provision of IT for Addition/Removal/Rearrangement/Replacement of Text

The frequency with which respondent teachers provide IT for addition / removal / rearrangement / replacement (revision) of text was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=307) = 195.69, $p = 9.35 \times 10^{-39}$). The most popular response was "several times a year" (n=89) closely followed by "never" (n=84) (see figure 5.24, p.163).

5.2.21 Provision of IT for Checking Spelling, Punctuation, Grammar, Syntax of Text (Editing/Proofreading)

The frequency with which respondent teachers provide IT for checking spelling, punctuation, grammar, syntax etc. of text (editing/proofreading) was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ^2 (df=7, N=304) = 206.89, $p = 3.97 \times 10^{-41}$). The most popular responses were "several times a year" and "never" (n=89) (see figure 5.25, p.164).

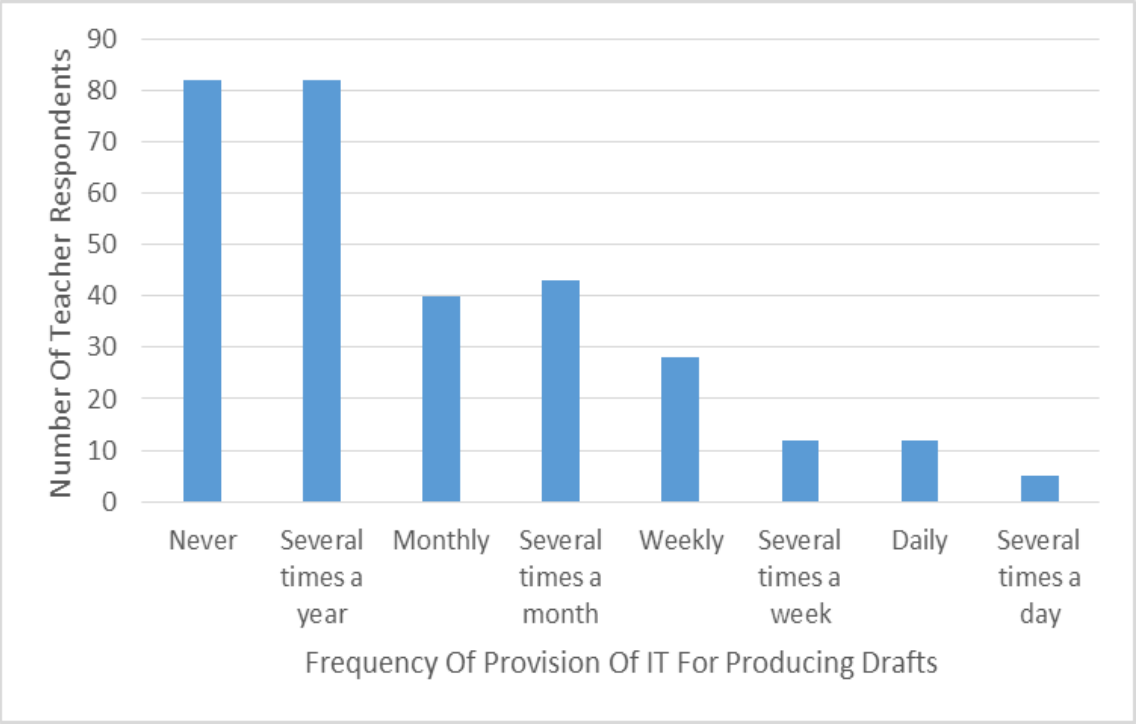


Figure 5.23 Teacher Respondents' Reported Frequency of Provision of IT for Draft Production

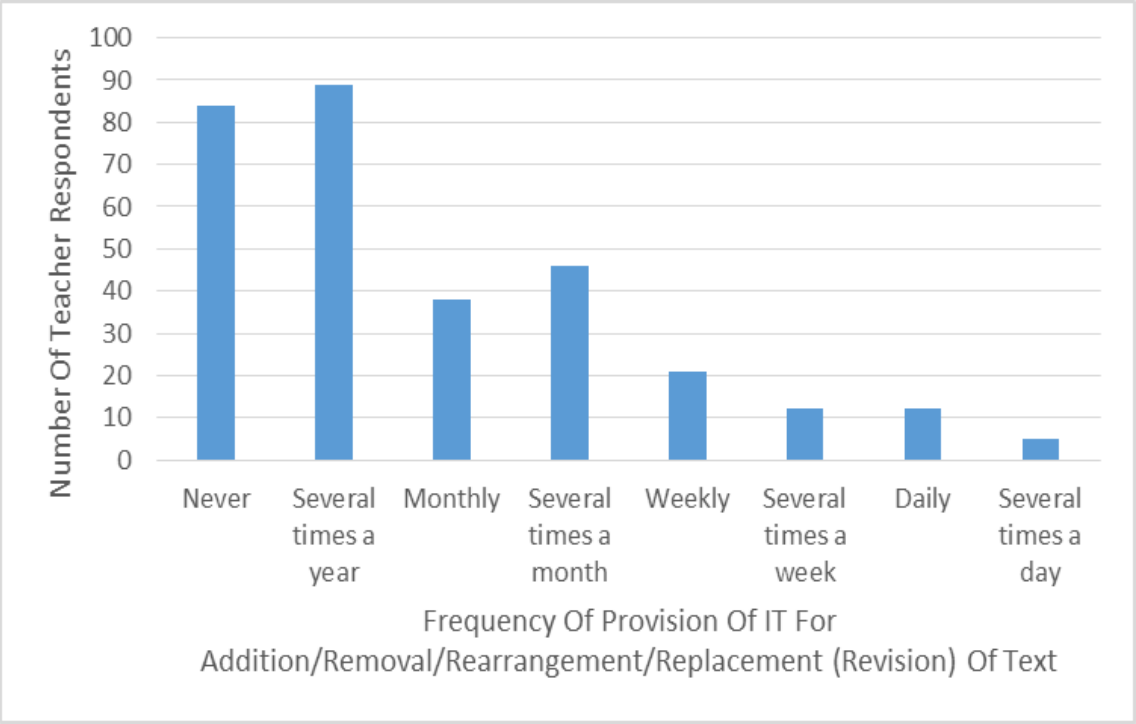


Figure 5.24 Teacher Respondents' Reported Frequency of Provision of IT for Addition/Removal/Rearrangement/Replacement (Revision) of Text

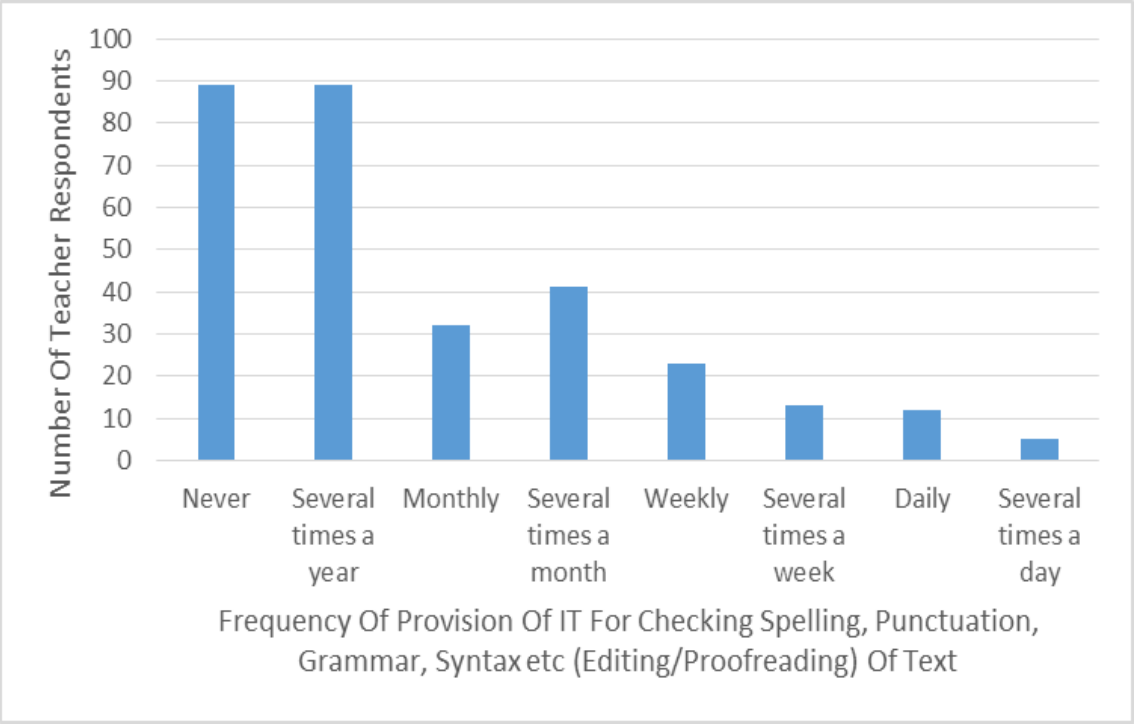


Figure 5.25 Teacher Respondents' Reported Frequency of Provision of IT for Checking Spelling, Punctuation, Grammar, Syntax Etc. Of Text (Editing/Proofreading)

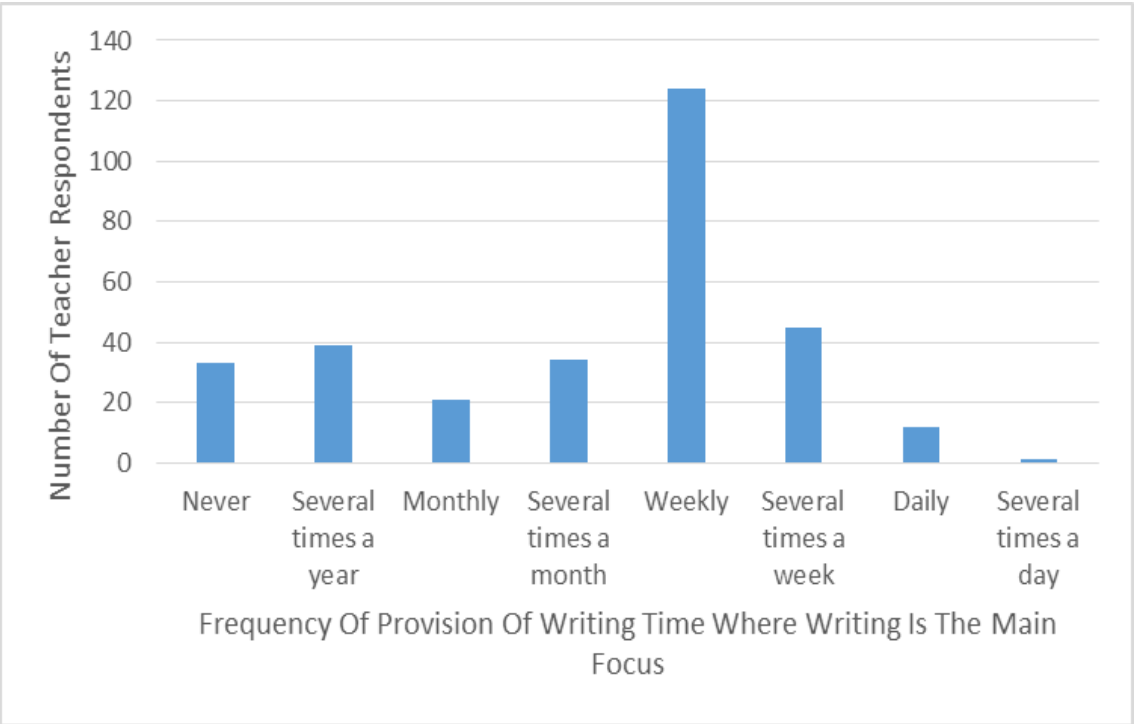


Figure 5.26 Teacher Respondents' Reported Frequency of Provision of Writing Time Where Writing Is the Main Focus

5.2.22 Provision of Writing Time Where Writing Is the Main Focus

The frequency with which respondent teachers provide writing time where writing is the main focus was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ_2 (df=7, N=309) = 254.18, p= 3.56 x10^{-51}). The most popular response by some margin was "weekly" (n=124) (see figure 5.26, p.164).

5.3 Use of Process Writing Elements

5.3.1 Frequency of Students Using Pre-Writing (Drawing Pictures or Making Notes) or Planning as Part of the Writing Process

Teacher respondents rated the frequency of students using pre-writing or planning as part of the writing process on a scale from 0 to 10, where 0= "never" and 10= "always". This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference (χ2 (df=10, N=307) = 148.65, p= 7.03 x10^{-27}). The most frequent rating was "8" (n=64) with the majority of responses at "5" or above (see figure 5.27, p.167).

5.3.2 Frequency of Students Writing a Draft as Part of the Writing Process

Teacher respondents rated the frequency of students writing a draft as part of the writing process on a scale from 0 to 10, where 0= "never" and 10= "always". This was compared with a theoretical distribution of equal values for each category.

There was a statistically very highly significant difference between that actual and theoretically expected ratings of frequency of student drafting (χ2 (df=10, N=307) = 46.46, p= 1.17 x10^{-6}). The most frequent rating was "8" (n=54) with the reminder of the responses roughly spread across the range (see figure 5.28, p.167).

5.3.3 Frequency of Students Adding/Removing/Rearranging/Replacing (Revising) Text as Part of the Writing Process

Teacher respondents rated the frequency of students writing adding/removing/rearranging/replacing (revising) text as part of the writing process on a scale from 0 to 10, where 0= "never" and 10= "always". This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference ($\chi 2$ (df=10, N=308) = 46.46, p= 1.17 $x10^{-6}$). The most frequent rating was "8" (n=54) with the reminder of the responses roughly spread across the range (see figure 5.29, p.168).

5.3.4 Frequency of Students Checking Spelling, Punctuation, Grammar, Syntax Etc. of Their Text (Edit/Proofread) as Part of the Writing Process

Teacher respondents rated the frequency of students checking spelling, punctuation, grammar, syntax etc. of their text (edit/proofread) as part of the writing process on a scale from 0 to 10, where 0= "never" and 10= "always". This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference ($\chi 2$ (df=10, N=309) = 178.02, p= 6.01 $x10^{-33}$). The most frequent rating was "10" (n=76) followed by "8" (n=60). The distribution generally increased from "0" to "10" (see figure 5.30, p.168).

5.3.5 Frequency of Students Making Their Work Available to an Audience as Part of the Writing Process

Teacher respondents rated the frequency of students making their work available to an audience as part of the writing process on a scale from 0 to 10, where 0= "never" and 10= "always". This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference ($\chi 2$ (df=10, N=307) = 77.78, p= 1.36 $x10^{-12}$). The most frequent rating was "8" (n=53) closely followed by "5" (n=49) (see figure 5.31, p.169).

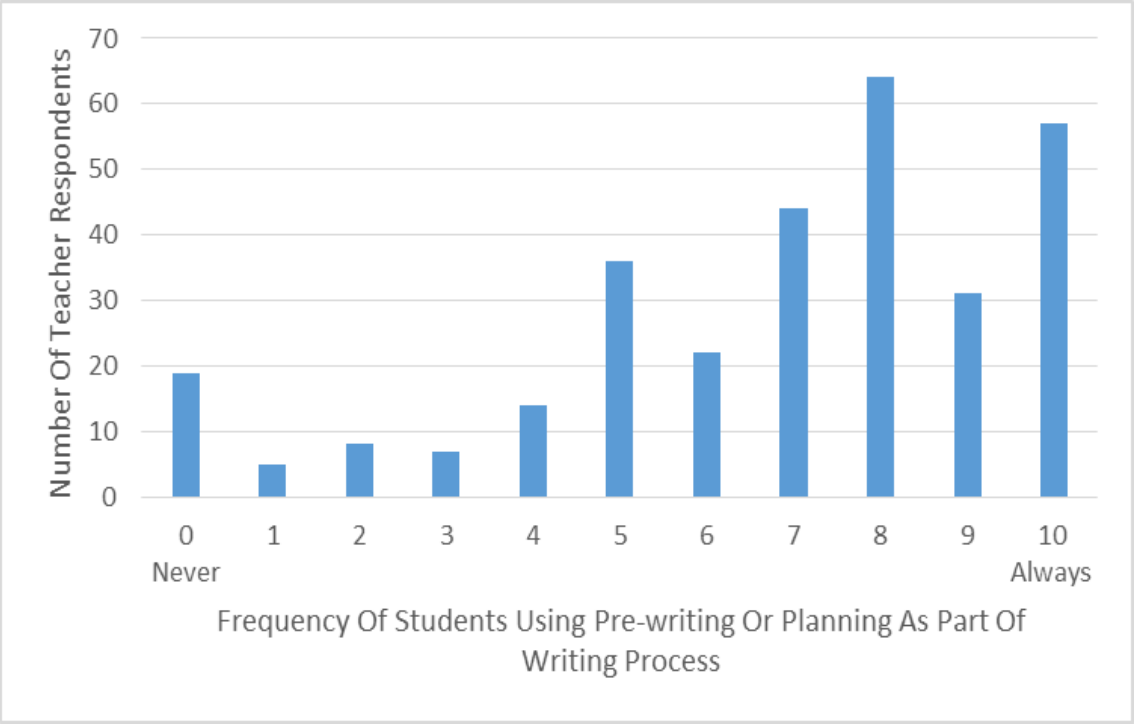


Figure 5.27 Teacher Respondents' Reported Frequency of Students Using Pre-Writing (Drawing Pictures or Making Notes) or Planning as Part of the Writing Process

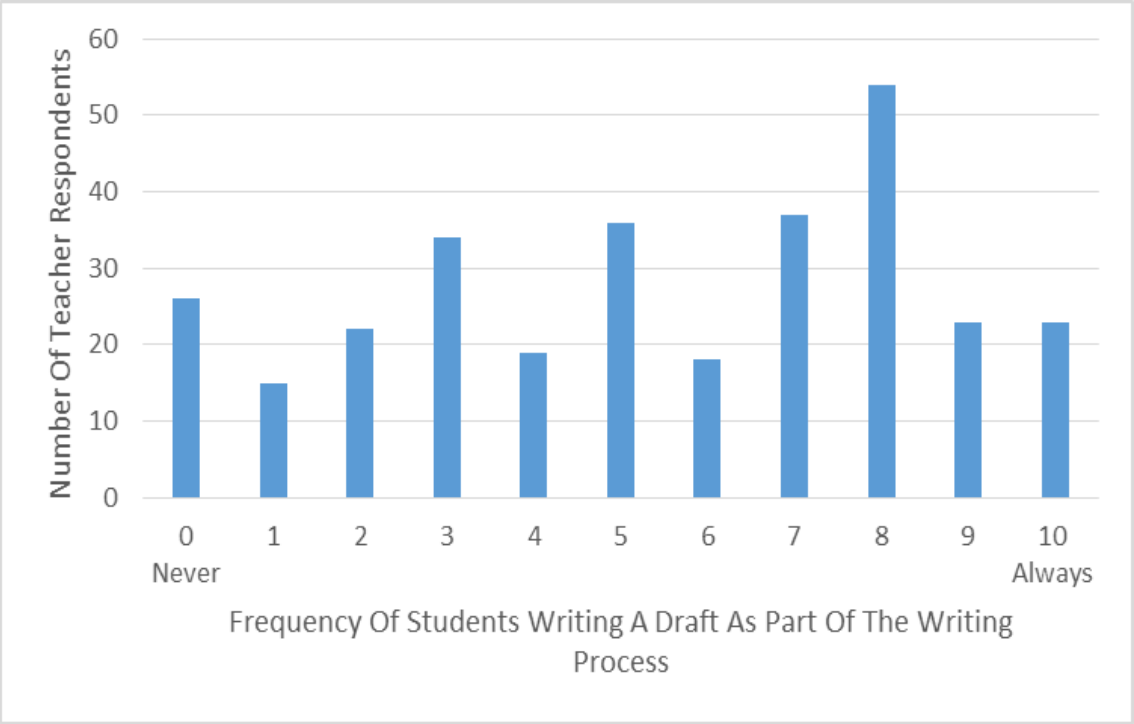


Figure 5.28 Teacher Respondents' Reported Frequency of Students Writing a Draft as Part of the Writing Process

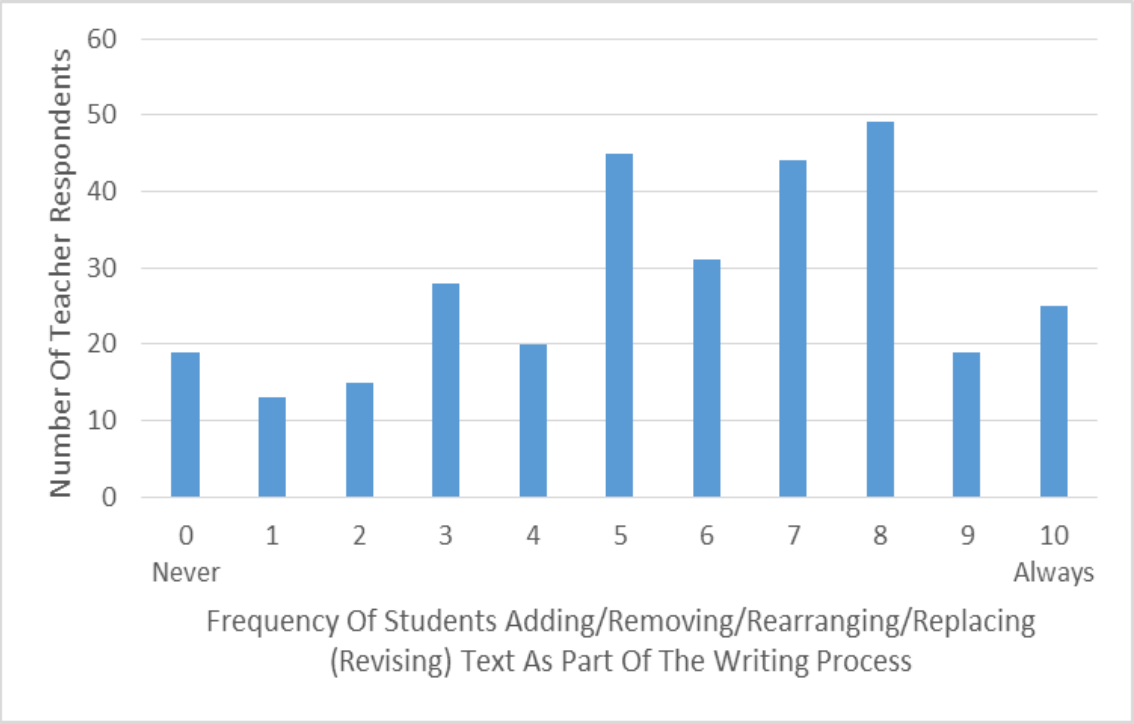


Figure 5.29 Teacher Respondents' Reported Frequency of Students Adding/Removing/Rearranging/Replacing (Revising) Text as Part of the Writing Process

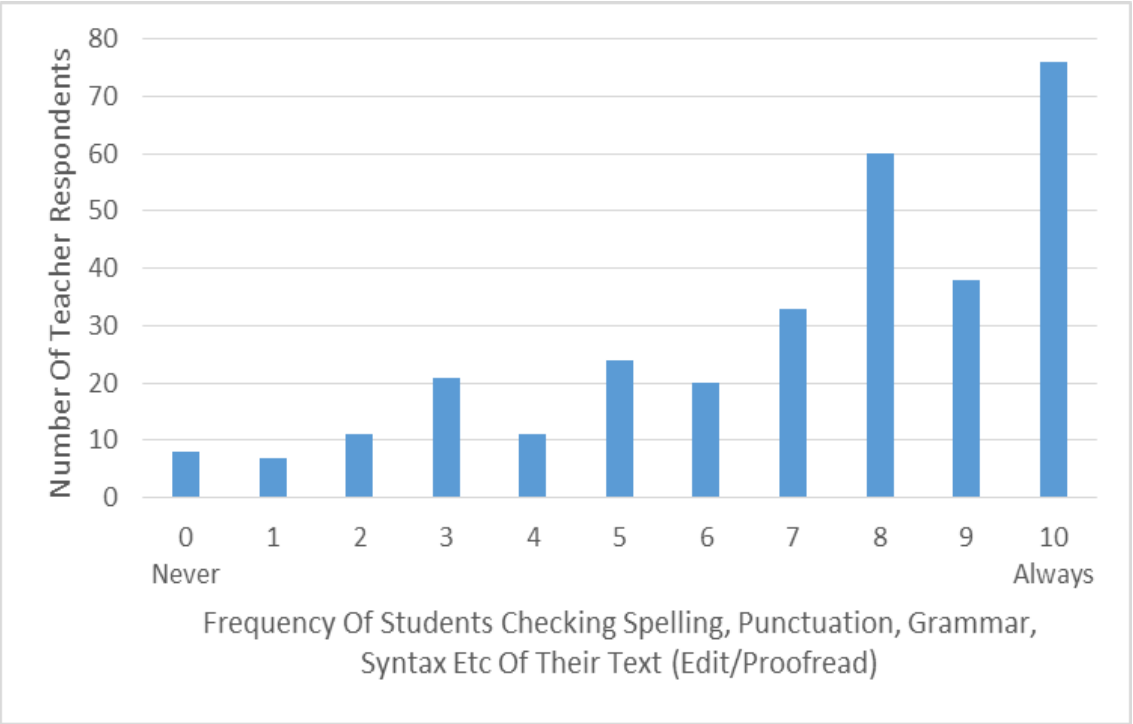


Figure 5.30 Teacher Respondents' Reported Frequency of Students Checking Spelling, Punctuation, Grammar, Syntax Etc. Of Their Text (Edit/Proofread) as Part of the Writing Process

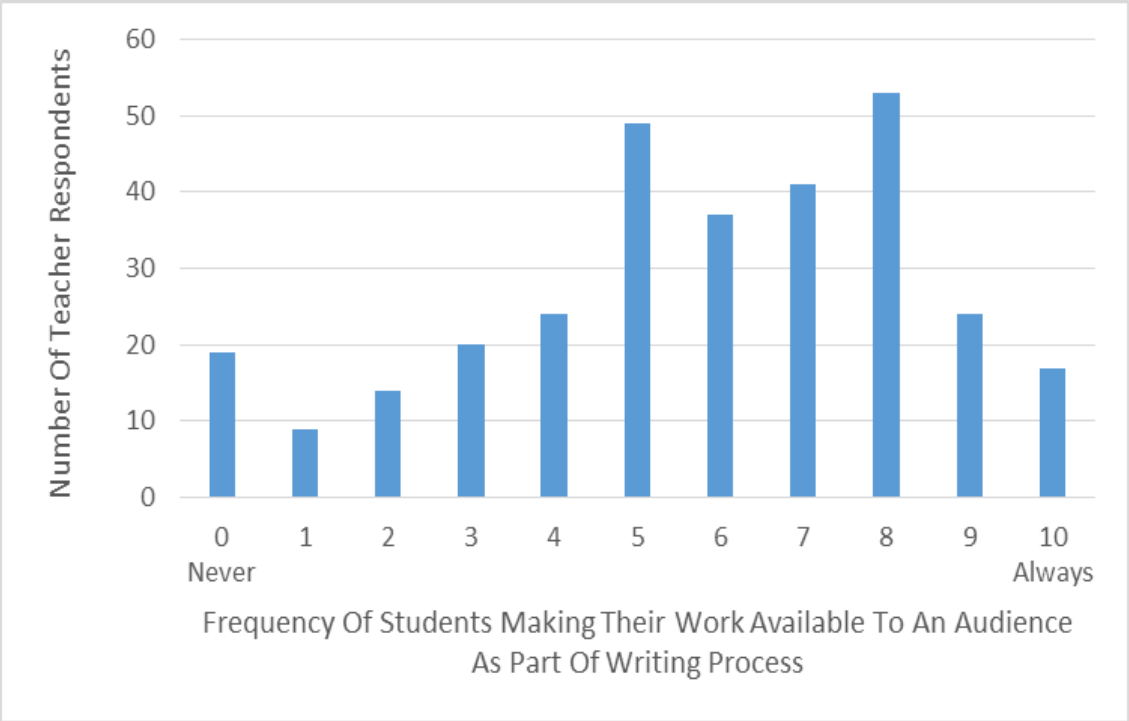


Figure 5.31 Teacher Respondents' Reported Frequency of Students Making Their Work Available to an Audience as Part of the Writing Process

5.4 Use of Information Technology (IT) to Support Writing

5.4.1 Permission for Student Use of Personally-Owned Electronic Devices at School for Writing Activities

Teacher respondents indicated whether or not students were allowed to use a range of personally-owned electronic devices at school for writing activities (see table 5.8, p.170). The majority of respondents indicated students were not permitted to use the devices. Laptops, netbooks and notebooks were twice as likely to be allowed as mobiles or smartphones, which were only permitted by 7.8% of teacher respondents (n=268). The Local Authority did not have a written policy to address this area. The Local Authority position at the time of the survey, described by the Head of Curriculum for the Authority, was that pupils could not be supported in bringing in their own devices to use in school.

Table 5.8 Teacher Respondents Reported Permission for Students to Use a Range of Personally-Owned Electronic Devices at School for Writing Activities

Electronic Device	Percentage Of Students Permitted To Use Personal Devices In School For Writing Activities (Number)	Percentage Of Students **Not** Permitted To Use Personal Devices In School For Writing Activities (Number)	Total Number Of Teacher Respondents
Laptop	15.6 (42)	84.4 (228)	271
Tablet	11.2 (30)	88.8 (239)	269
Notebook Or Netbook	17.4 (47)	82.6 (223)	270
Mobile Or Smartphone	7.8 (21)	92.2 (247)	268

5.4.2 Teachers Views on Sufficiency of Student Access to IT to Support Their Writing

Teacher respondents rated the statement "Students have sufficient IT access to support their writing activities" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=191) = 32.28, p= 0.00035). The most frequent rating was "5" (n=31) closely followed by a group ranging in response numbers from 19 to 25 which were spread across the categories (see figure 5.32, p.171). A response of "4" or lower was given by 40.3% of the elementary respondents. Just 10.9% strongly agreed that students had sufficient IT access.

By contrast, there was not a statistically significant difference for high school teachers between the observed and the theoretical expected values, meaning the distribution was fairly evenly spread ($\chi 2$ (df=10, N=113) = 14.42, p= 0.15). The most frequent rating was "10" (n=16) indicating that they strongly agreed with the statement. However, other ratings were almost as popular, with "0", "2", "3", "5", "7" and "8" ranging from 11 to 13 respondents (figure 5.33, p.171). A response of "4" or lower was given by 41.5% of the high school respondents.

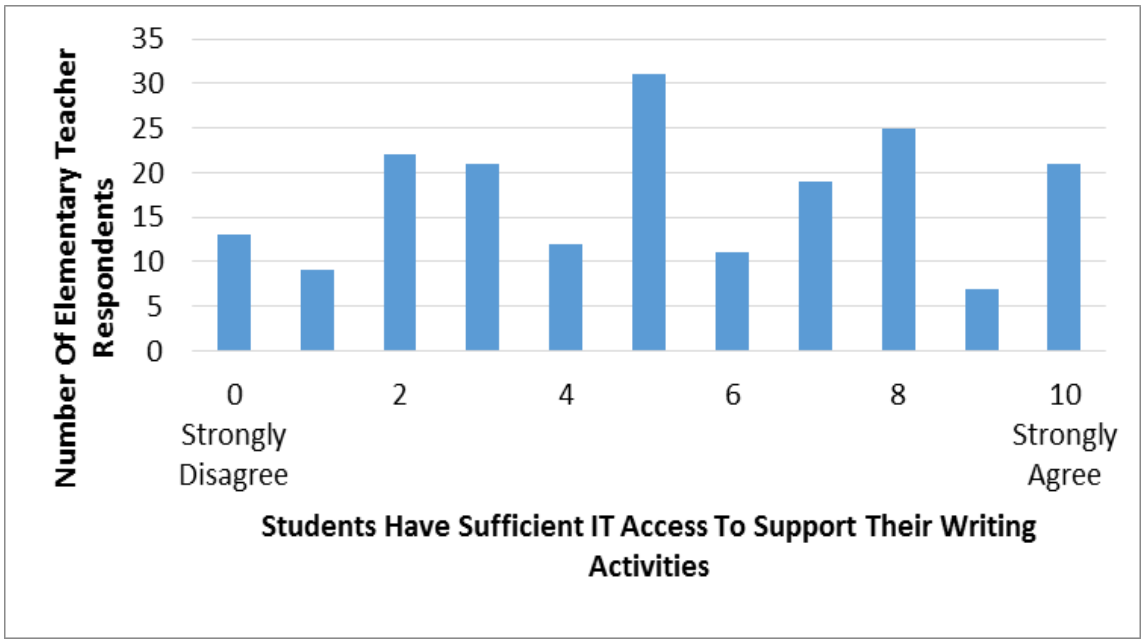


Figure 5.32 Elementary Teacher Respondents' Views on Sufficiency of Student Access to IT to Support Their Writing

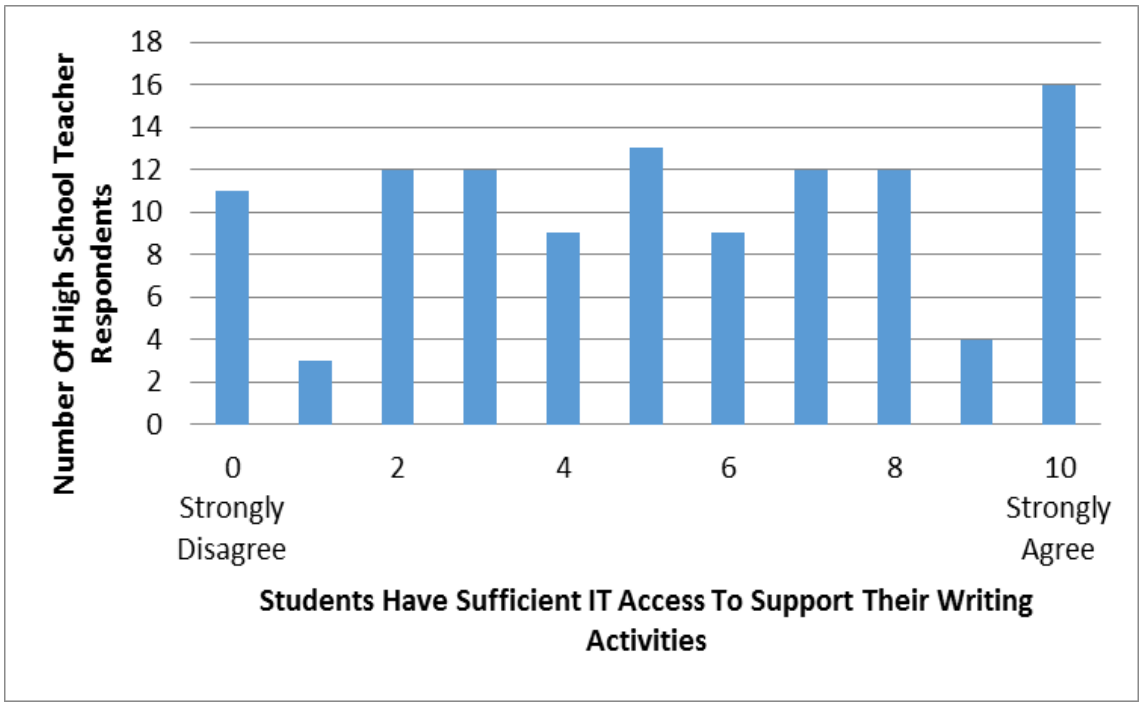


Figure 5.33 High School Teacher Respondents' Views on Sufficiency of Student Access to IT to Support Their Writing

5.4.3 Teachers Views on Whether They Would Provide More IT Access If There Were More Desktop Computers, Laptops, Notebooks or Netbooks Available

Teacher respondents rated the statement "I would provide more IT access to support student writing activities if there were more desktop computers, laptops, notebooks or netbooks available" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=190) = 246.52, p= 2.91 $x10^{-47}$). The most frequent rating by some margin was "10" (n=75) indicating strong agreement that they too would provide more IT access if it were available. A notable number gave ratings of "9" (n=21) or "8" (n=27) (see figure 5.34, p.173). A response of "6" or higher was given by 72.2% of the elementary respondents. There was also a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=111) = 147.94, p= 9.85 $x10^{-27}$). The most frequent rating by some margin was again "10", indicating strong agreement that they too would provide more IT access if it were available (n=44) (see figure 5.35, p.173). A response of "6" or higher was given by 68.4% of the high school respondents.

5.4.4 Teachers Views on Whether They Would Provide More IT Access If There Were More Tablets Available

Teacher respondents rated the statement "I would provide more IT access to support student writing activities if there were more desktop computers, laptops, notebooks or netbooks available" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree" (see figure 5.36, p.174). Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=303) = 290.01, p= 2.0 $x10^{-56}$). The most frequent rating by some margin was "10" (n=105) indicating strong agreement that they would provide more IT access if more tablets were available. A response of "6" or higher was given by 63.0% of the respondents.

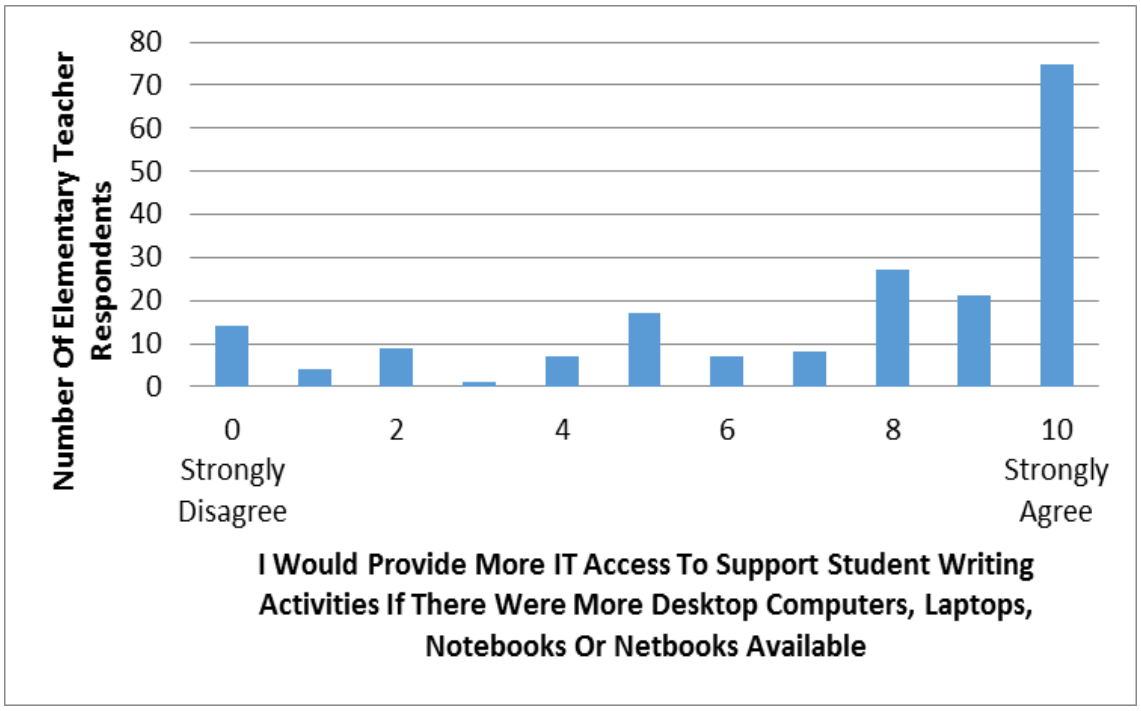


Figure 5.34 Elementary Teacher Respondents Views on Whether They Would Provide More IT Access to Support Writing If There Were Desktop Computers, Laptops, Notebooks or Netbooks Available

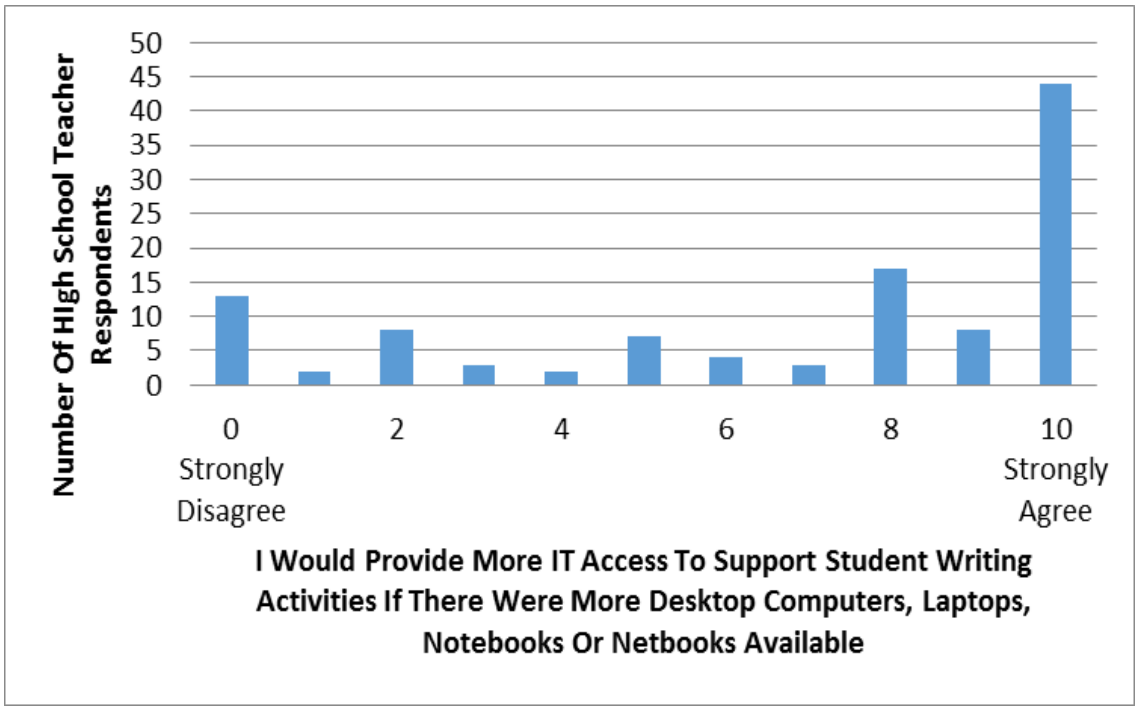


Figure 5.35 High School Teacher Respondents Views on Whether They Would Provide More IT Access to Support Writing If There Were More Desktop Computers, Laptops, Notebooks or Netbooks Available

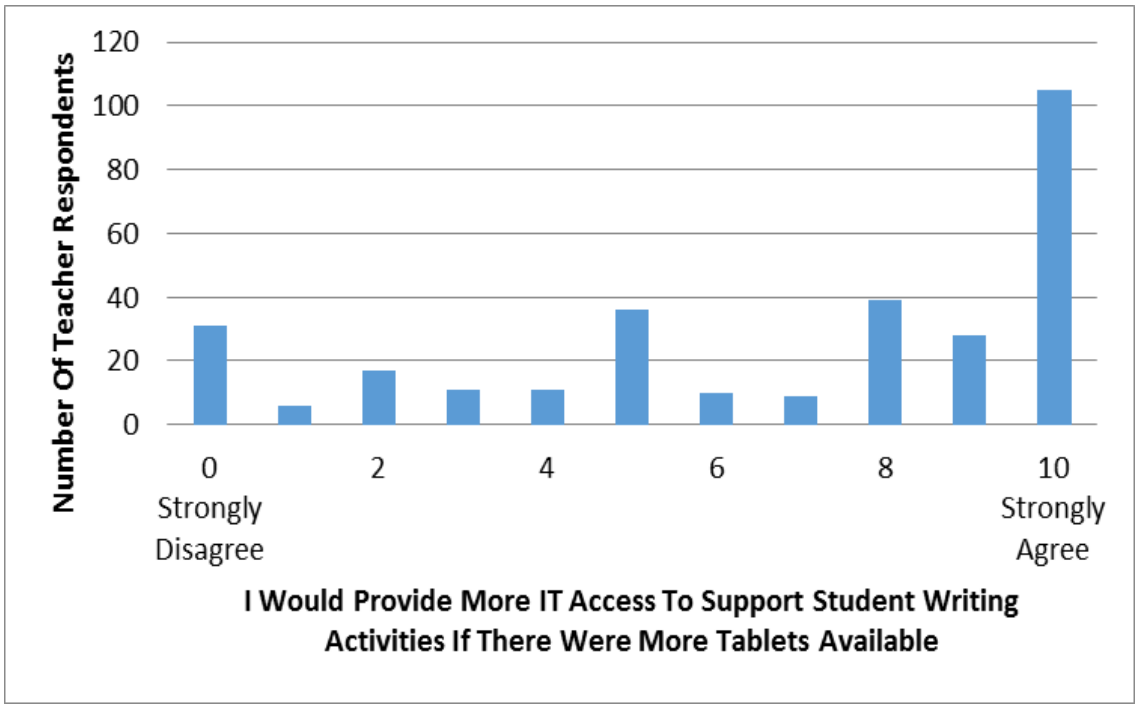


Figure 5.36 Teacher Respondents Views on Whether They Would Provide More IT Access to Support Writing If There Were More Tablets Available

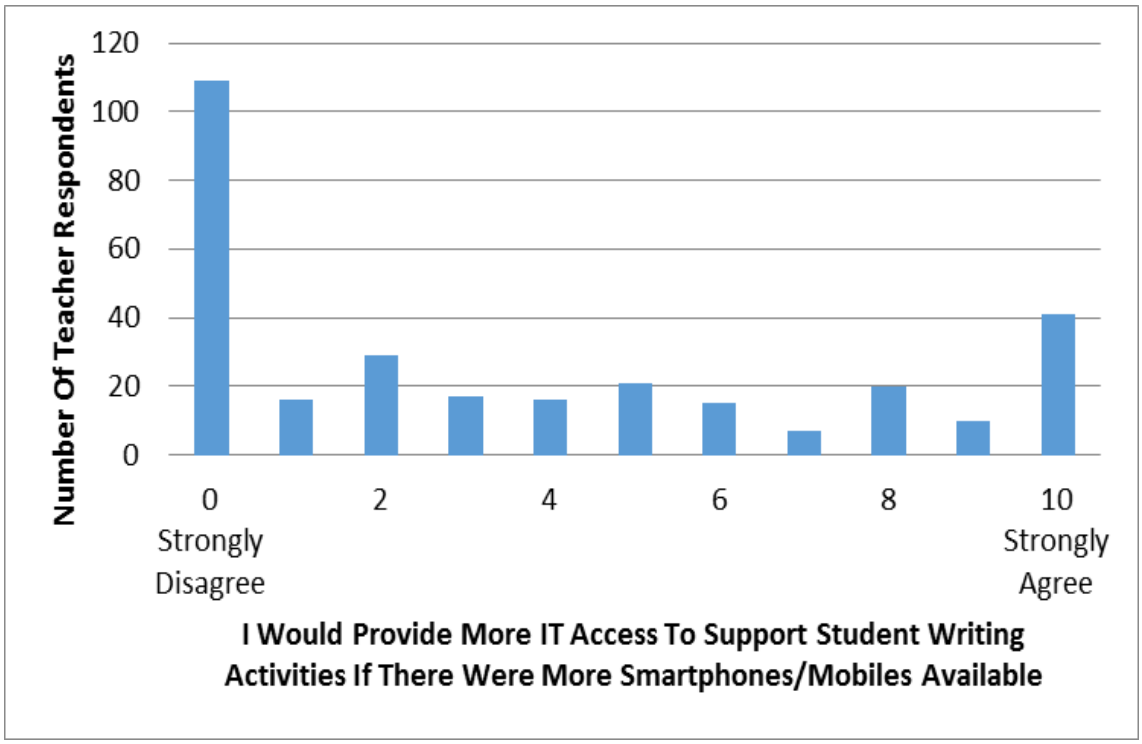


Figure 5.37 Teacher Respondents Views on Whether They Would Provide More IT Access to Support Writing If There Were More Smartphones/Mobiles Available

5.4.5 Teachers Views on Whether They Would Provide More IT Access If There Were More Smartphones or Mobiles Available

Teacher respondents rated the statement "I would provide more IT access to support student writing activities if there were more smartphones/mobiles available" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=301) = 299.02, p= 2.49 $x10^{-58}$). The most frequent rating by some margin was "0" (n=109) indicating strong disagreement that they would provide more IT access if more smartphones or mobiles were available (see figure 5.37, p.174). However, the second most popular response held the opposite view, but it was not as strongly supported ("10", (n=41). The remaining responses were fairly evenly spread. A response of "6" or higher was given by 30.8% of the respondents.

5.4.6 Teachers Views on Whether They Would Provide More IT Access If There Were More Up-To-Date Devices Available

Teacher respondents rated the statement "I would provide more IT access to support student writing activities if there were more up-to-date devices available" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=300) = 241.93, p= 2.69 $x10^{-46}$). The most frequent rating by some margin was "10" (n=98) indicating strong agreement that they would provide more IT access if more tablets were available (see figure 5.38, p.177). The remaining responses were fairly evenly spread. A response of "6" or higher was given by 63.3% of the respondents.

5.4.7 Teachers Views on Whether They Would Provide More IT Access If the Internet Speed and/or Bandwidth Were Better for the Students

Teacher respondents rated "I would provide more IT access to support student writing activities if the internet speed and/or bandwidth were better for the students" on a scale

from 0 to 10, where 0= “strongly disagree” and 10= “strongly agree”. Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=301) = 226.96, p= 3.71 $x10^{-43}$). The most frequent rating was “10” (n=94) indicating strong agreement that they would provide more IT access if better internet speed and/or bandwidth were available (see figure 5.39, p.177). The remaining responses were somewhat evenly spread. A response of “6” or more was given by 59.8% of respondents.

5.4.8 Teachers Views on Whether They Would Provide More IT Access If They Had More Training

Teacher respondents rated the statement “I would provide more IT access to support student writing activities if I had more training on how to do so” on a scale from 0 to 10, where 0= “strongly disagree” and 10= “strongly agree”. Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values on whether teachers would provide more IT access if they had more training ($\chi 2$ (df=10, N=185) = 90.83, p= 3.66 $x10^{-15}$). The most frequent rating was “10” (n=41) (see figure 5.40, p.178). A response of “6” or higher was given by 65.4% of the elementary respondents.

There was a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=111) = 65.69, p= 2.98 $x10^{-10}$). The most frequent rating by was “10” (n=28) (see figure 5.41, p.178) but notable numbers strongly disagreed (“0”, n=21) or gave a central rating (“5”, n=16). A response of “6” or higher was given by 49.5% of the high school teacher respondents.

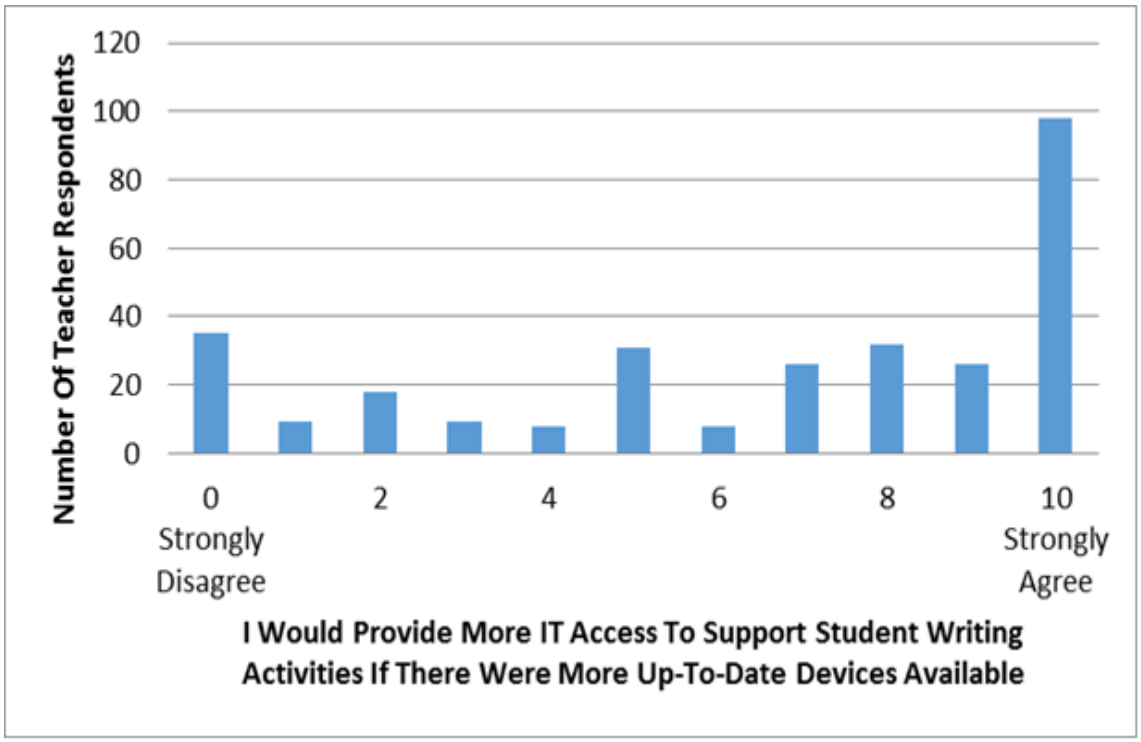


Figure 5.38 Teacher Respondents Views on Whether They Would Provide More IT Access to Support Writing If There Were More Up-To-Date Devices Available

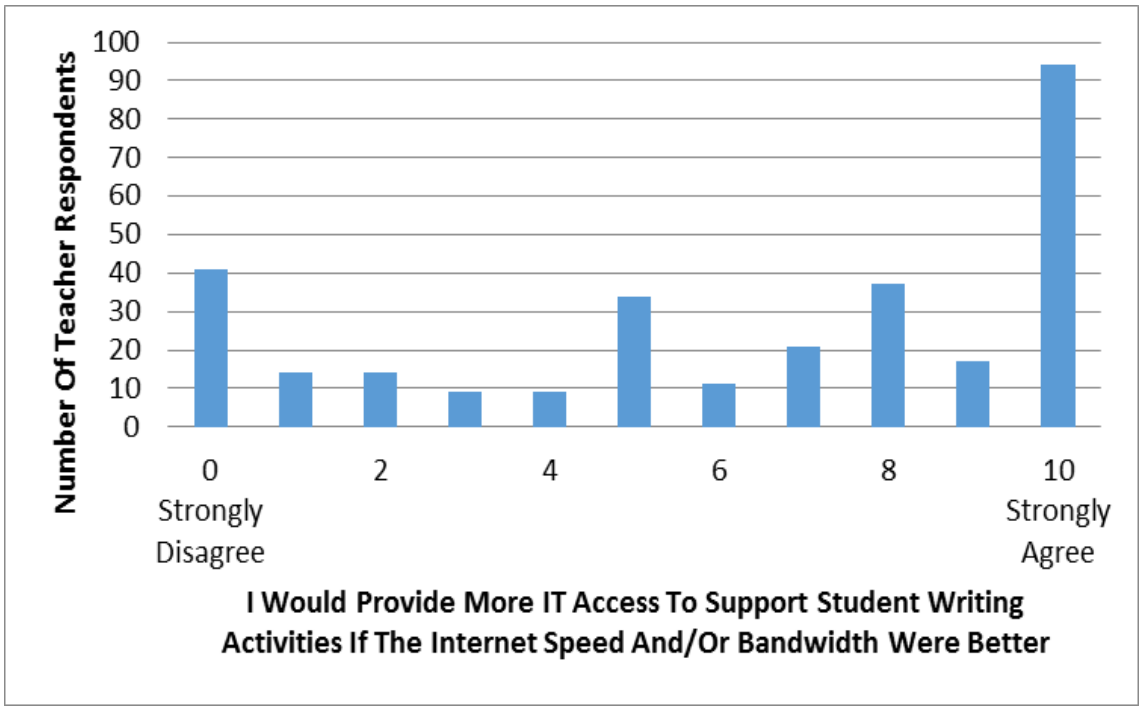


Figure 5.39 Teacher Respondents Views on Whether They Would Provide More IT Access to Support Writing If the Internet Speed and/or Bandwidth Were Better for the Students

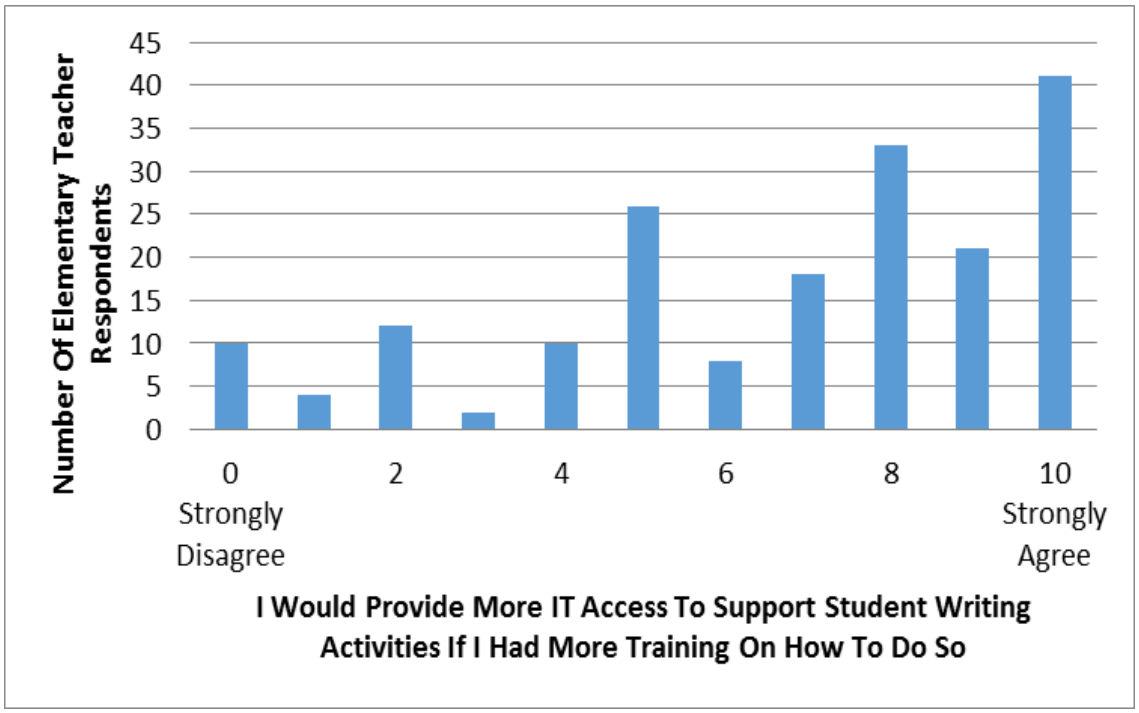


Figure 5.40 Elementary Teacher Respondents' Views on Whether They Would Provide More IT Access to Support Writing If They Had More Training

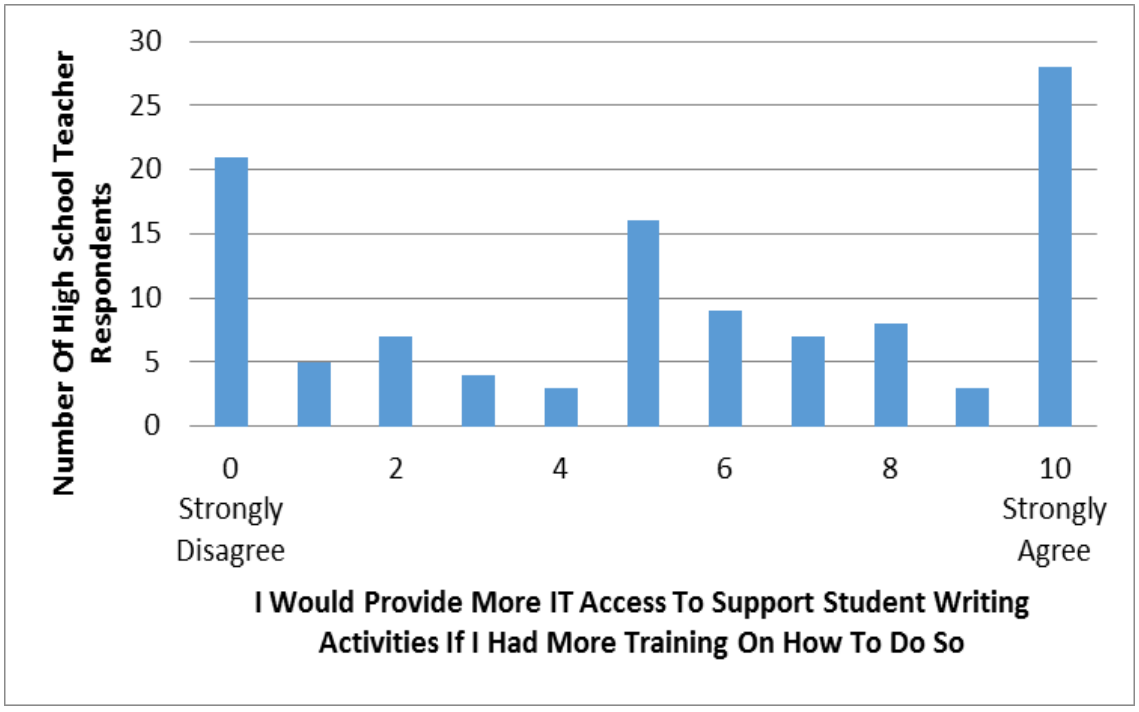


Figure 5.41 High School Teacher Respondents' Views on Whether They Would Provide More IT Access to Support Writing If They Had More Training

5.5 Evaluation of Writing

5.5.1 Evaluating Ideas When Assessing Writing

Respondents rated the statement "Evaluating Ideas When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and theoretical expected values ($\chi 2$ (df=10, N=300) = 413.60, p= 1.19 $x10^{-82}$). The most frequent rating by some margin was "10" (n=102) with notable numbers giving ratings of "8" (n=65) and "9" (n=54) (see figure 5.42, p.181). A response of "6" or higher was given by 91.6% of the respondents.

5.5.2 Evaluating Organisation When Assessing Writing

Teacher respondents rated the statement "Evaluating Organisation When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important". Responses were compared with a theoretical distribution of equal values. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=298) = 445.12, p= 2.28 $x10^{-89}$). The most frequent rating was "10" (n=99) with notable numbers giving ratings of "8" (n=73) and "9" (n=60) (see figure 5.43, p.181). A response of "6" or higher was given by 93.9%.

5.5.3 Evaluating Voice When Assessing Writing

Teacher respondents rated the statement "Evaluating Voice When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important" (see figure 5.44, p.182). Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=296) = 119.99, p= 5.07 $x10^{-21}$). The most frequent rating for evaluating voice when assessing writing was "8" (n=61) followed by "10" (n=48) then a notable proportion of the remainder spread between "5", "6", "7" and "9" (see figure 5.44, p.182). A response of "6" or higher was given by 70.6% of the respondents.

5.5.4 Evaluating Sentence Fluency When Assessing Writing

Teacher respondents rated the statement "Evaluating Sentence Fluency When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=300) = 430.54, p= 2.93 $x10^{-86}$).

The most frequent rating on evaluating sentence fluency by some margin was "10" (n=105) with notable numbers of respondents selecting "8" (n=63) or "9" (n=62) (see figure 5.45, p.182). A response of "6" or higher was given by 90.6% of the respondents

5.5.5 Evaluating Spelling, Punctuation and Grammar When Assessing Writing

Teacher respondents rated the statement "Evaluating Spelling, Punctuation and Grammar When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=300) = 492.88, p= 1.46 $x10^{-99}$). The most frequent rating by some margin was "10" (n=114) with notable numbers of respondents selecting "8" (n=63) or "9" (n=62) (see figure 5.46, p.183). A response of "8" or higher was given by 79.0% of the respondents while a response of "6" or higher was given by 93.0% of respondents.

5.5.6 Evaluating Handwriting When Assessing Writing

Teacher respondents rated the statement "Evaluating Handwriting Quality When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=299) = 140.81, p= 2.86 $x10^{-25}$). The most frequent ratings were "8" (n=56) and "7" (n=55) (see figure 5.47, p.183). A response of "6" or higher was given by 72.2% of respondents.

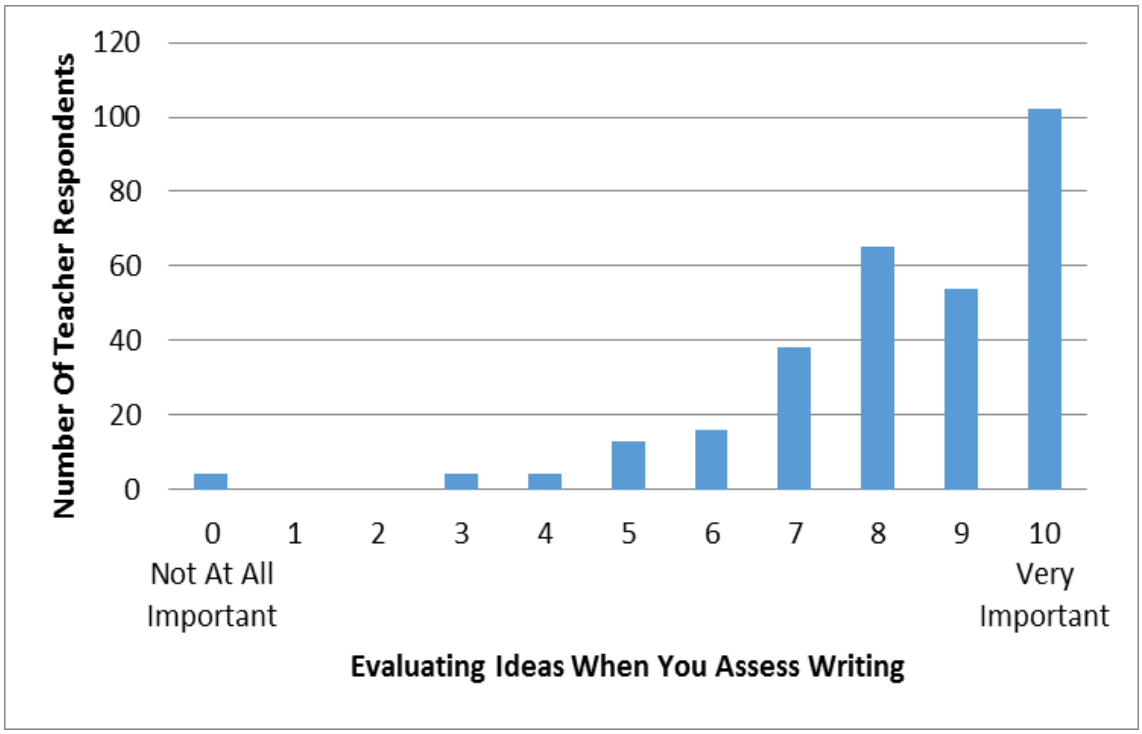


Figure 5.42 Teacher Respondents Views on Importance of Evaluation of Ideas during Writing Assessment

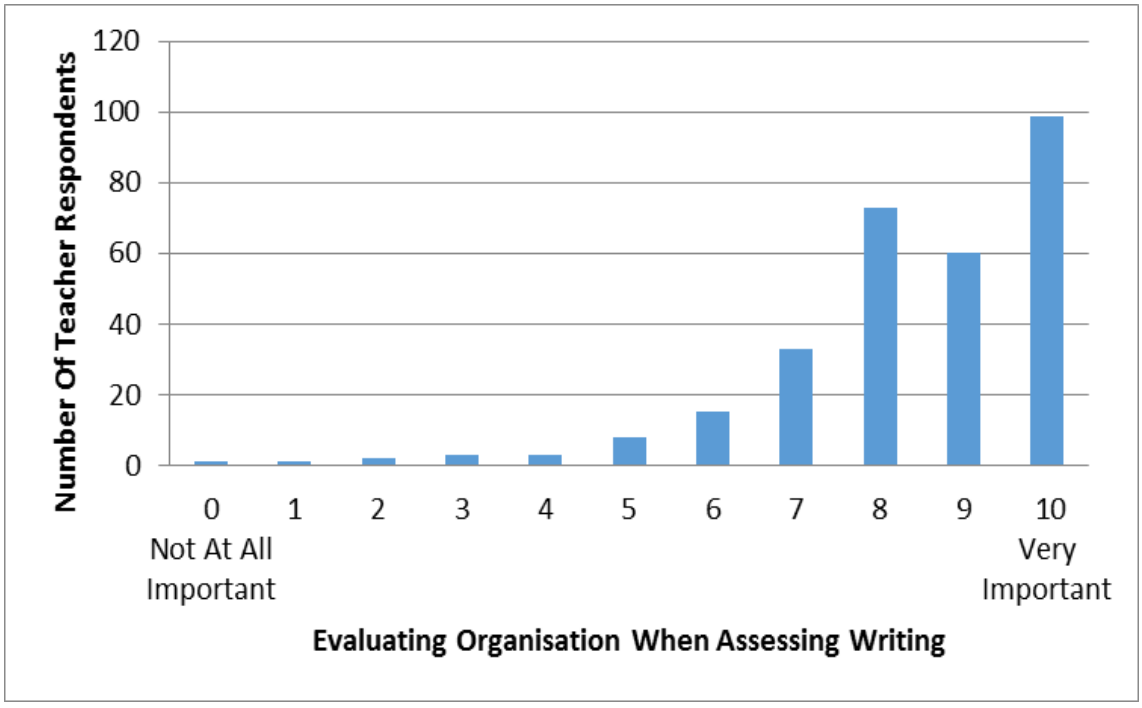


Figure 5.43 Teacher Respondents' Views on Importance of Evaluation of Organisation during Writing Assessment

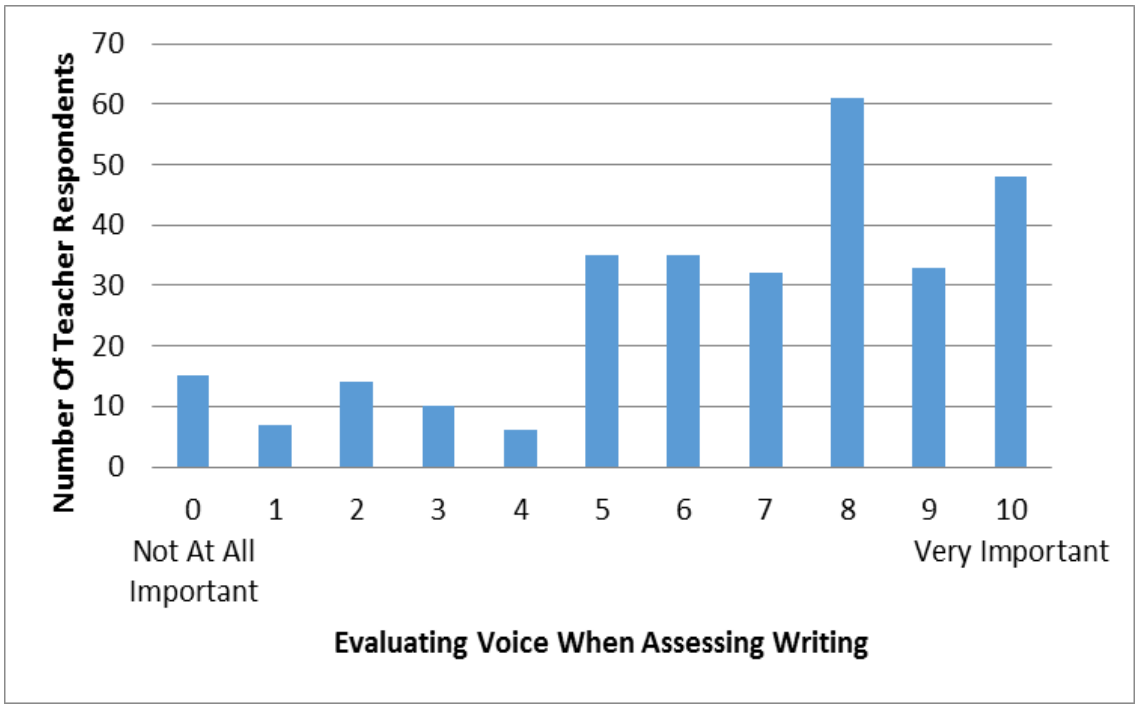


Figure 5.44 Teacher Respondents' Views on Importance of Evaluation of Voice during Writing Assessment

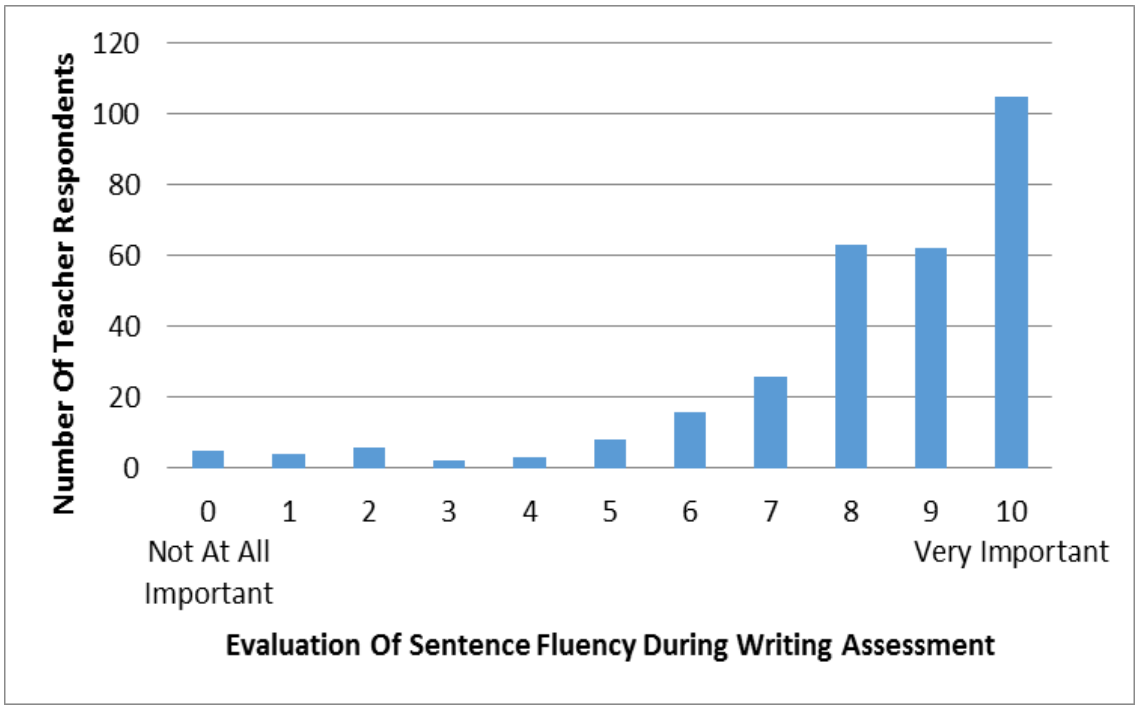


Figure 5.45 Teacher Respondents' Views on Importance of Evaluation of Sentence Fluency during Writing Assessment

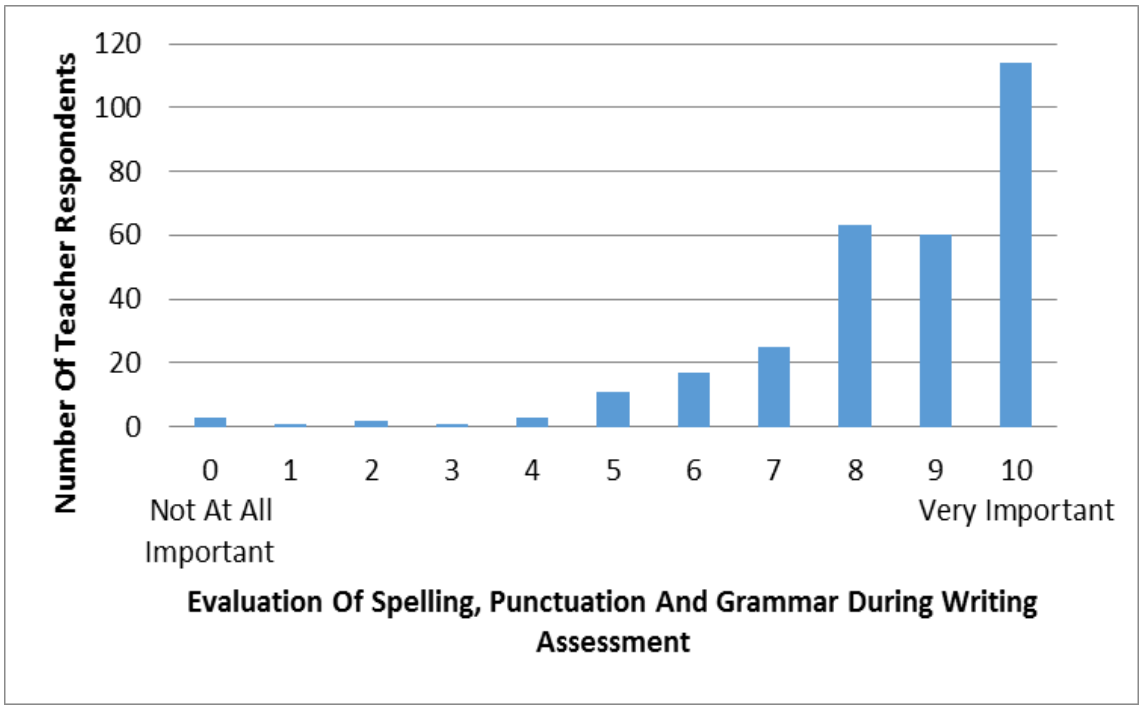


Figure 5.46 Teacher Respondents'' Views on Importance of Evaluation of Spelling, Punctuation and Grammar during Writing Assessment

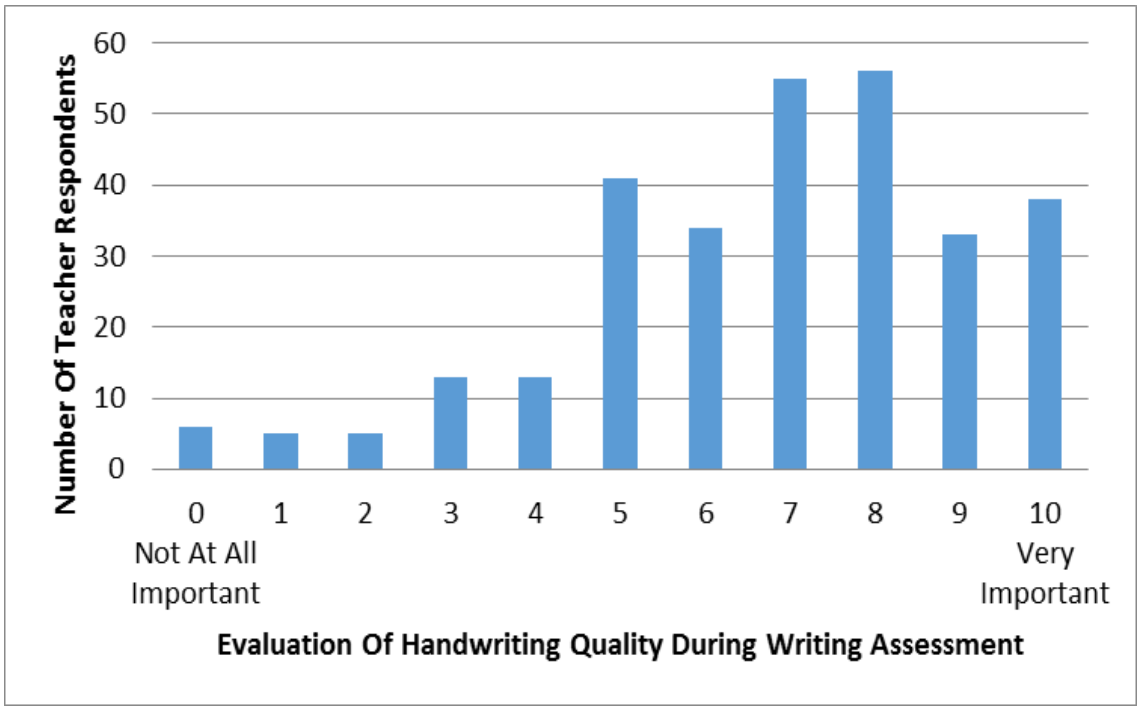


Figure 5.47 Teacher Respondents' Views on Importance of Evaluation Handwriting Quality during Writing Assessment

5.5.7 Evaluating Visual Layout When Assessing Writing

Teacher respondents rated the statement "Evaluating Visual Layout of the Work When You Assess Writing" on a scale from 0 to 10, where 0= "Not at all important" and 10= "Very important". Responses were compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference between the observed and the theoretical expected values ($\chi 2$ (df=10, N=299) = 198.20, p= 3.81 $x10^{-37}$). The most frequent ratings were "8" (n=64) and "7" (n=58) (see figure 5.48, p.186). A response of "6" or higher was given by 80.6% of respondents.

5.6 Teacher Beliefs about Writing

5.6.1 Teachers Views on the Importance of Writing Skills for Students

Teacher respondents (n=299) rated the statement "Writing is an essential skill for students" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were compared with a theoretical distribution of equal values for each category. No respondents selected the categories from "0" to "4" inclusive and so it was not possible to calculate $\chi 2$. The most frequent rating by a great margin was "10" (n=248) indicating strong agreement by 83.0% of respondents that writing was essential for students (see figure 5.49, p.186). A response of "6" or higher was given by 98.6% of the respondents.

5.6.2 Teachers Views on Adequacy of Student Writing Skills

Teacher respondents rated the statement "My students have the writing skills they need to do work in my class" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category.

There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values of ratings of student writing skills adequacy ($\chi 2$ (df=10, N=189) = 187.50, p= 6.46 $x10^{-35}$). The most frequent rating

was “8” (n=51) with notable numbers selecting “7” (n=41) or “9” (n=35), with 78.8% giving a response of “7” or higher (see figure 5.50, p.187). A response of “6” or higher was given by 86.2% of the elementary respondents.

There was a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=109) = 58.01, p= 8.57 $x10^{-9}$). The most frequent rating was “6” (n=21) with notable numbers selecting “8” (n=20), “5” (n=18) or “7” (n=16) (see figure 5.51, p.187). A response of “6” or higher was given by 61.0% of the high school teacher respondents.

5.6.3 Teachers Views on Adequacy of Teacher Training Course in Preparation to Teach Writing

Teacher respondents rated the statement “My teacher training course adequately prepared me to teach writing” on a scale from 0 to 10, where 0= “strongly disagree” and 10= “strongly agree”. Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=186) = 36.95, p= 5.75 $x10^{-5}$). The most frequent rating was “5” (n=35) with a notable number selecting “8” (n=27) (see figure 5.52, p.188). A response of “6” or higher was given by 49.4% of the elementary respondents.

There was a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=108) = 51.70, p= 1.29 $x10^{-7}$). The most frequent rating was “0” (n=29, 26.8% of high school respondents) with a notable number selecting “5” (n=16). The remainder were spread across the range (see figure 5.53, p.188). A response of “6” or higher was given by 33.3% of the high school teacher respondents.

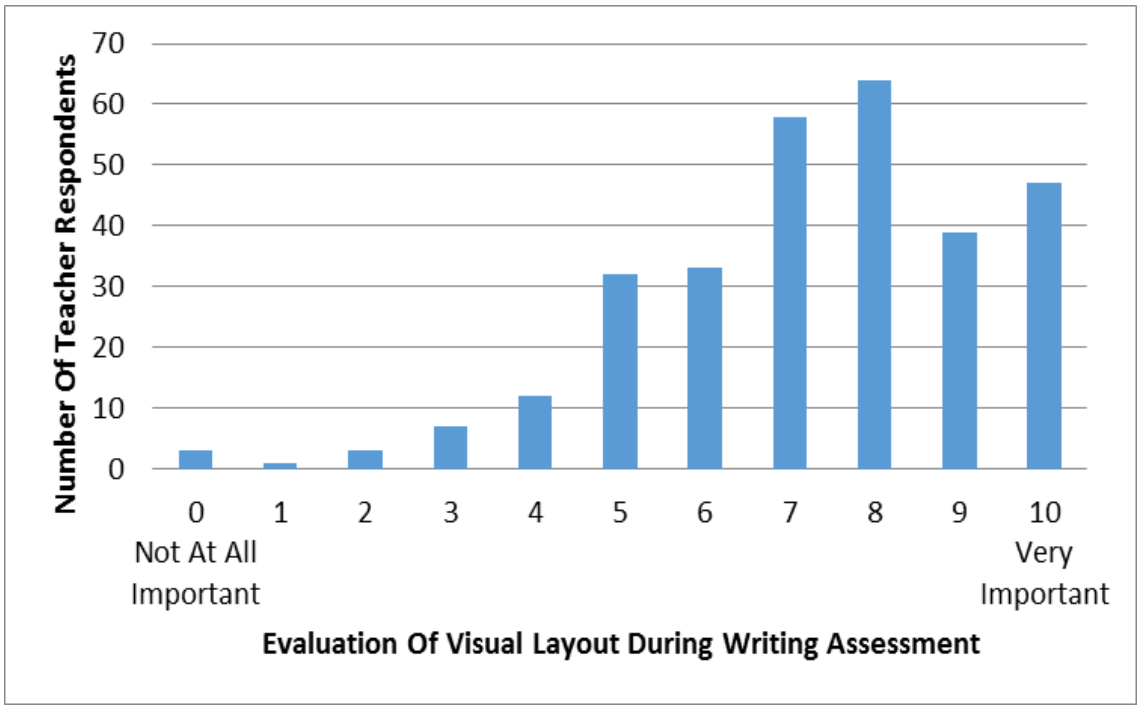


Figure 5.48 Teacher Respondents' Views on Importance of Evaluation of Visual Layout of the Work during Writing Assessment

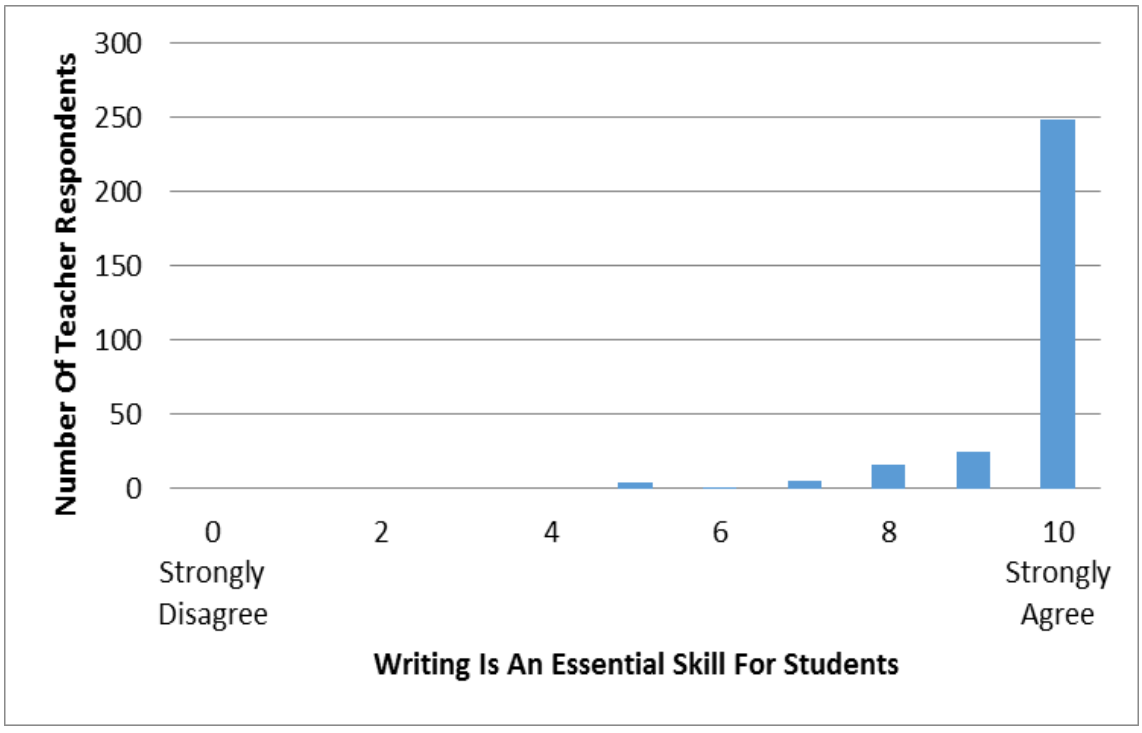


Figure 5.49 Teacher Respondents' Views on Importance of Writing as a Skill for Students

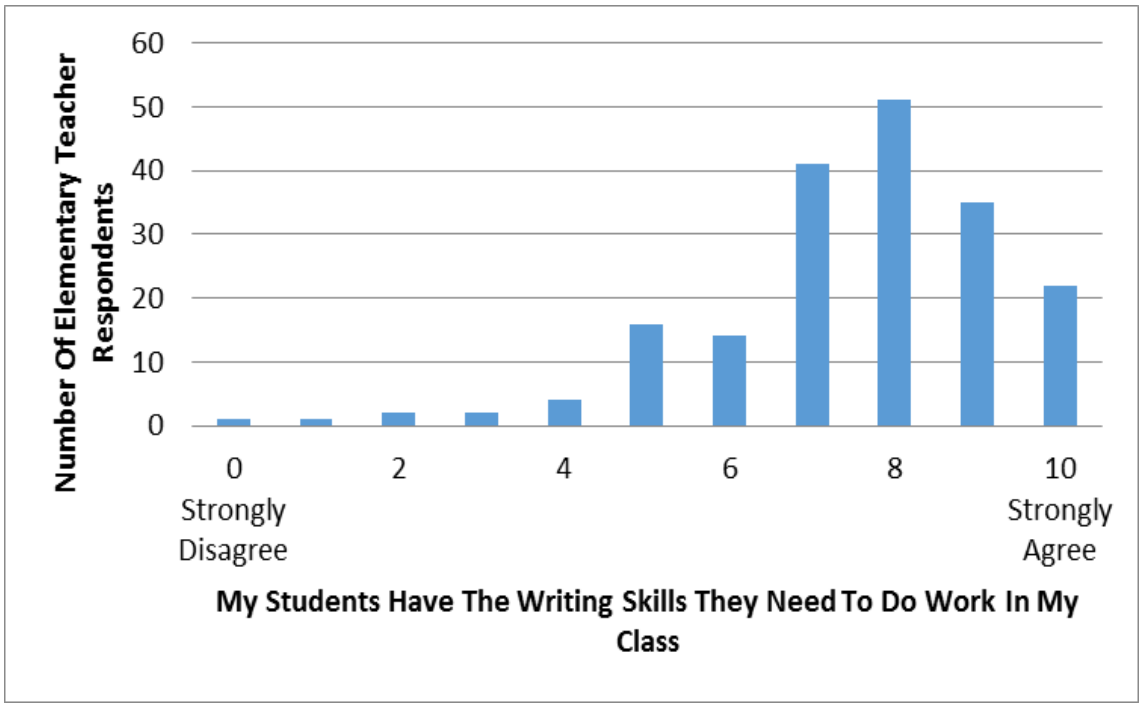


Figure 5.50 Elementary Teacher Respondents' Views on Adequacy of Student Writing Skills

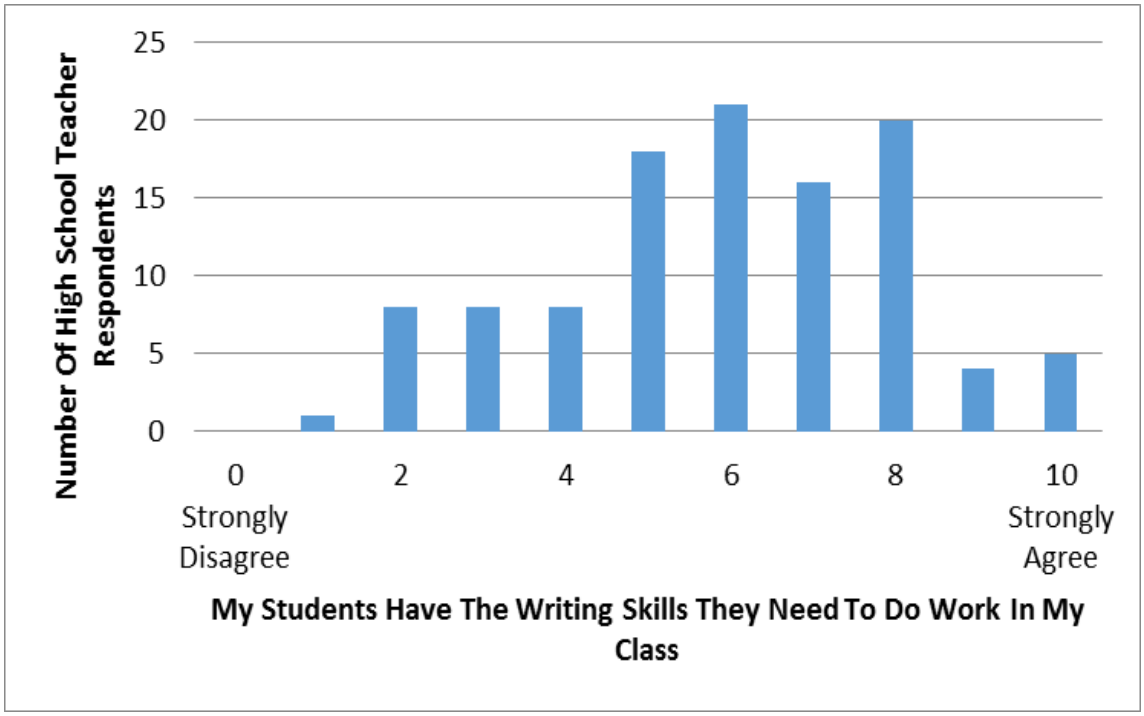


Figure 5.51 High School Teacher Respondents' Views on Adequacy of Student Writing Skills

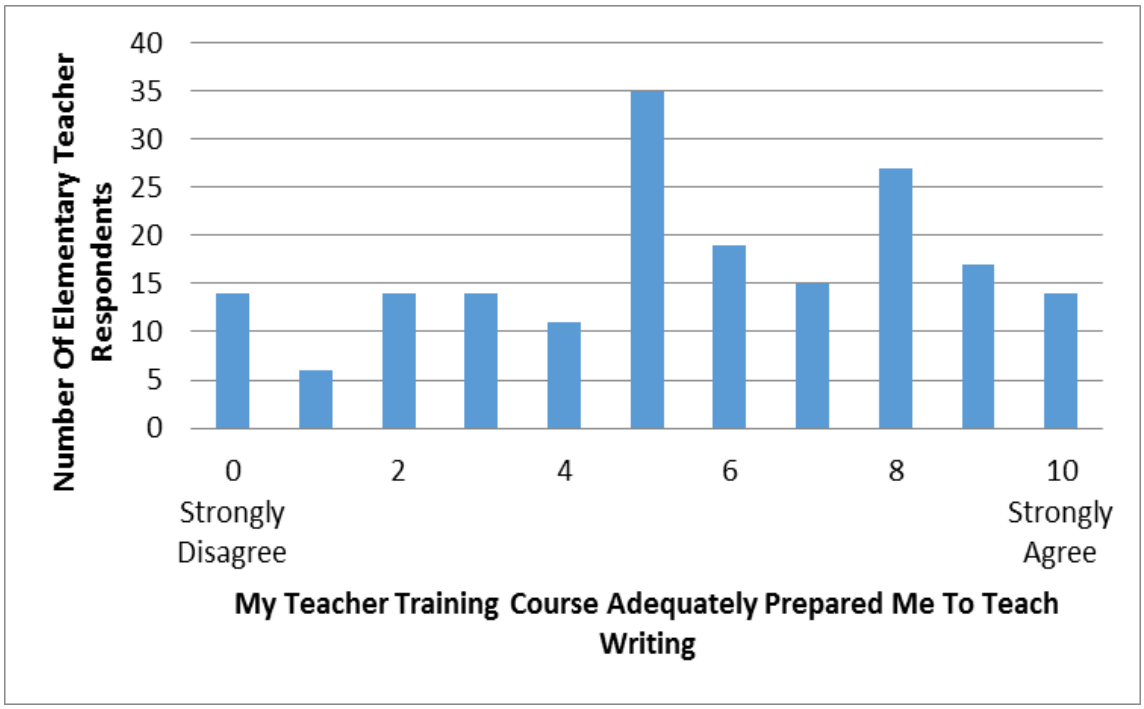


Figure 5.52 Elementary Teacher Respondents' Views on Adequacy of Teacher Training Course In Preparation to Teach Writing

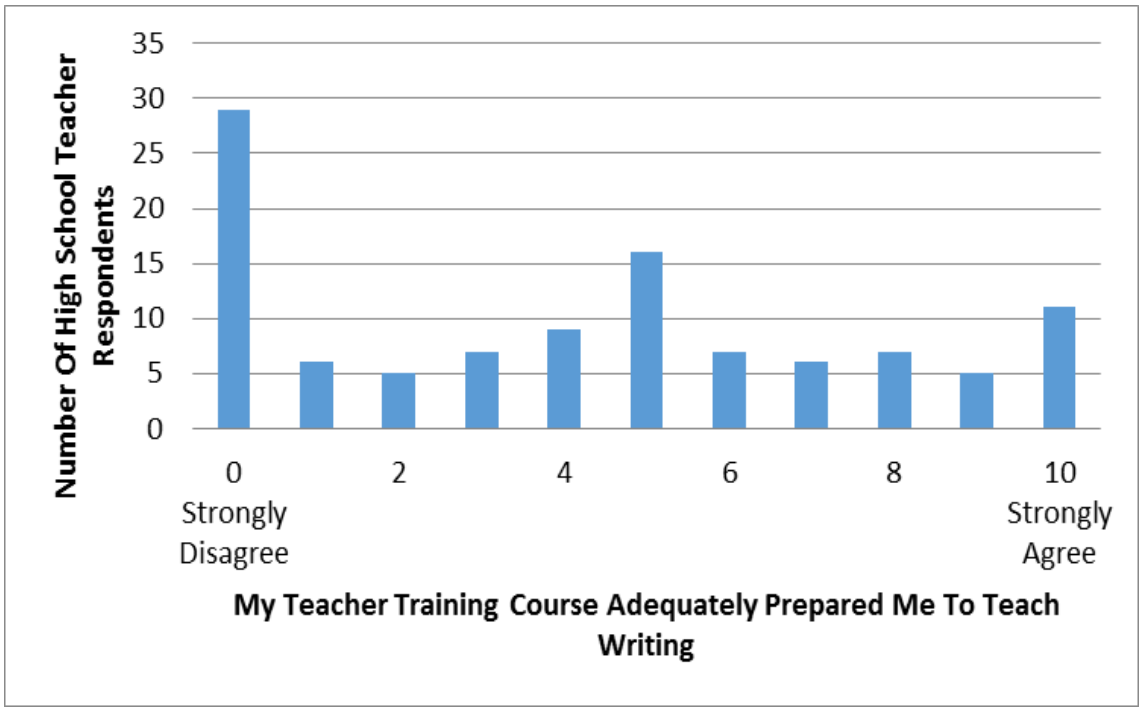


Figure 5.53 High School Teacher Respondents' Views on Adequacy of Teacher Training Course In Preparation to Teach Writing

Eighty of the high school teacher respondents to this question had degrees without English included as a subject specialism when training ("Non-English degree"); three did not name their degrees (see figure 5.53, p.187). The most frequent rating was "0" (n=26) with a notable number selecting "5" (n= 10) (see figure 5.54, p.191) "10" was selected by four teachers. A response of "6" or higher was given by 29.1% of the high school teacher respondents with non- English degrees. Twenty-five of the high school respondents to this question had degrees with English included as a subject specialism when training. The most frequent rating was "10" (n=6). Notable numbers selected "5" (n=5) (see figure 5.54, p.191). A response of "6" or higher was given by 46.1%.

5.6.4 Teachers Views on Adequacy of In-Service Training to Teach Writing

Teacher respondents rated the statement "I have received adequate In-Service training to teach writing" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=187) = 56.23, p= 1.85 $x10^{-8}$). The most frequent ratings on adequacy of in-service training to teach writing were "5" and "8" (n=32) (see figure 5.55, p.191). A response of "6" or higher was given by 61.4% of the elementary respondents.

There was a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=108) = 32.35, p= 0.0003). The most frequent rating was "0" (n=23, 21.2% of high school respondents) with notable numbers selecting "1" (n=12) or "5" (n=17) range (see figure 5.56, p.192). A response of "0" or "1" was given by 32.4% of high school respondents. A response of "6" or higher was given by 34.2% of the high school teacher respondents. Seventy-nine of the high school teacher respondents to this question had degrees without English included as a subject specialism when training ("Non-English degree"). The most frequent rating was "0" (n=20) with notable numbers selecting "1" (n= 11) or "5" (n=10) (see figure 5.57, p.192). A response of "6" or higher was given by 26.6%.

Twenty-six of the high school respondents to this question had degrees with English included as a subject specialism when training. The most frequent rating was "8" (n=6) with a notable number selecting "5" (n=5) (see figure 5.57, p.192). A response of "6" or higher was given by 57.6 % of the high school teacher respondents with English degrees.

5.6.5 Teachers Views on Their Efficacy at Teaching Writing

Teacher respondents rated the statement "I am effective at teaching writing" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=188) = 237.13, p= 2.73 $x10^{-45}$). No elementary respondents gave ratings under "5".The most frequent rating was "8" (n=56) (see figure 5.58, p.193). The majority of responses were "7" or above (82.9%). A response of "6" or higher was given by 91.4% of the elementary respondents.

There was a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values on their perceived efficacy at teaching writing ($\chi 2$ (df=10, N=106) = 49.66, p= 3.08 $x10^{-7}$). The most frequent rating was "8" (n=27). 21.2% of high school respondents) with notable numbers selecting "5" (n=15), "6" (n=12) or "10" (n=11) (see figure 5.59, p.193). A response of "6" or higher was given by 63.2% of the high school teacher respondents.

Seventy-seven of the 103 high school teacher respondents to this question had degrees without English included as a subject specialism when training ("Non-English degree"). The most frequent rating was "5" (n=15) with notable numbers selecting "8" (n= 13) and "6" (n=11) (see figure 5.60, p.195). "0" was selected by seven. A response of "6" or higher was given by 48.1% of the high school teacher respondents with non- English degrees. By contrast, twenty-six of the high school respondents to this question had degrees with English included as a subject specialism when training. The most frequent rating was "8" (n=13) (see figure 5.60, p.195). A response of "6" or higher was given by 100%.

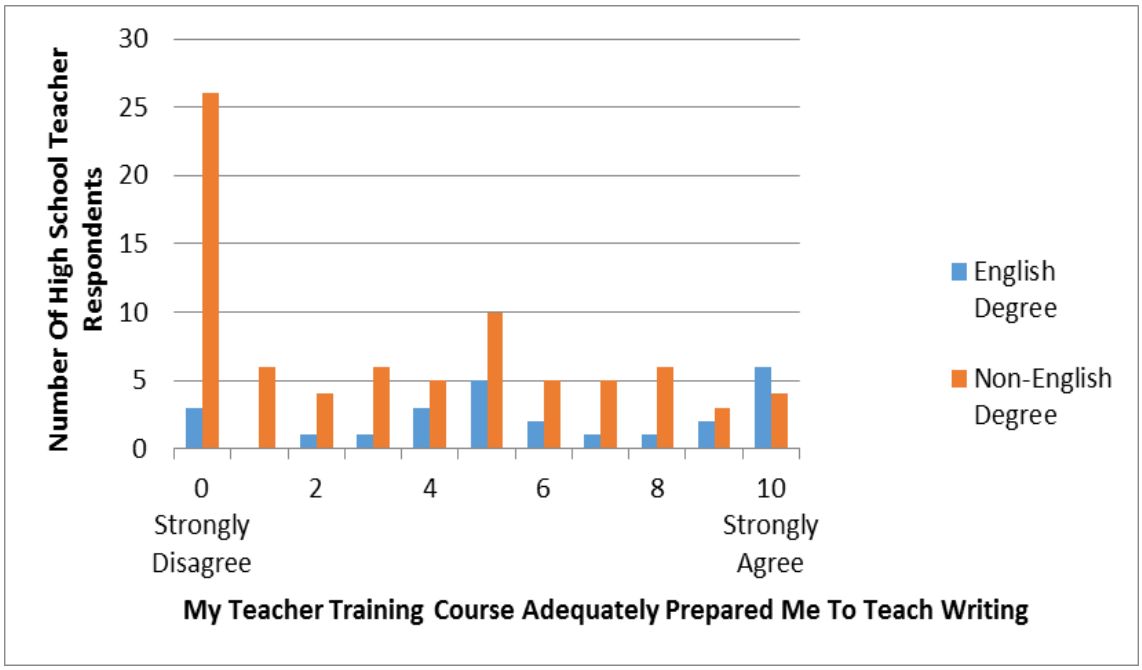


Figure 5.54 High School Teacher Respondents' Views on Adequacy of Teacher Training Course In Preparation to Teach Writing by English or Non-English Degree

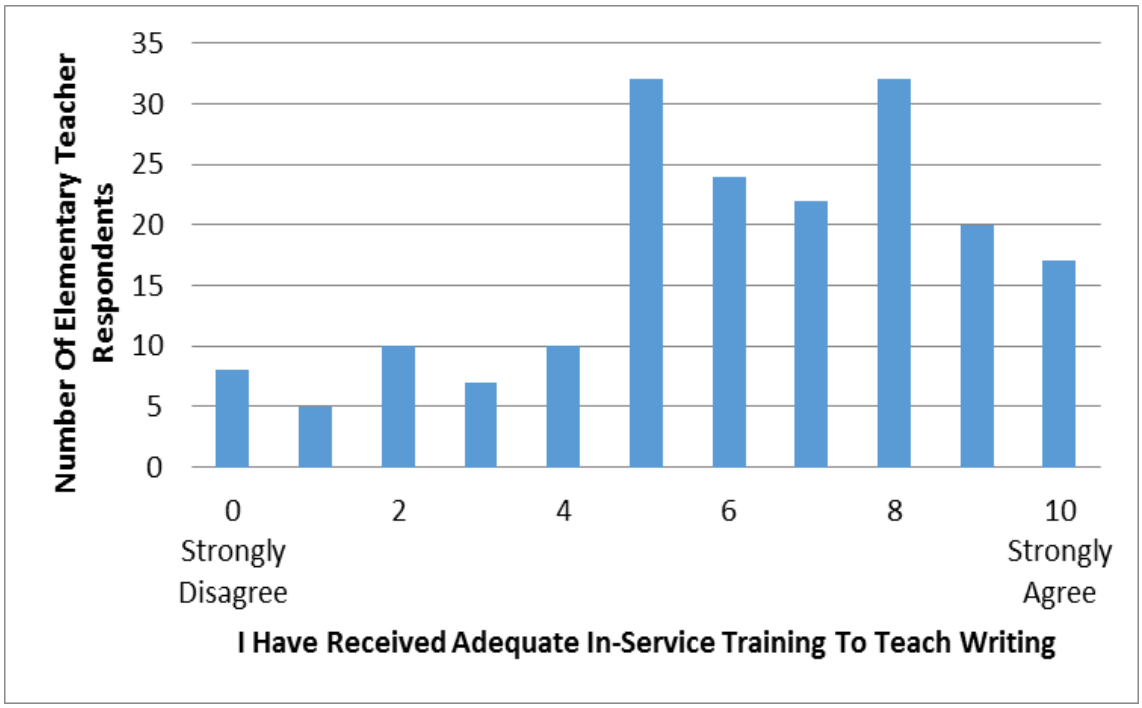


Figure 5.55 Elementary Teacher Respondents' Views on Adequacy of In-Service Training Received to Teach Writing

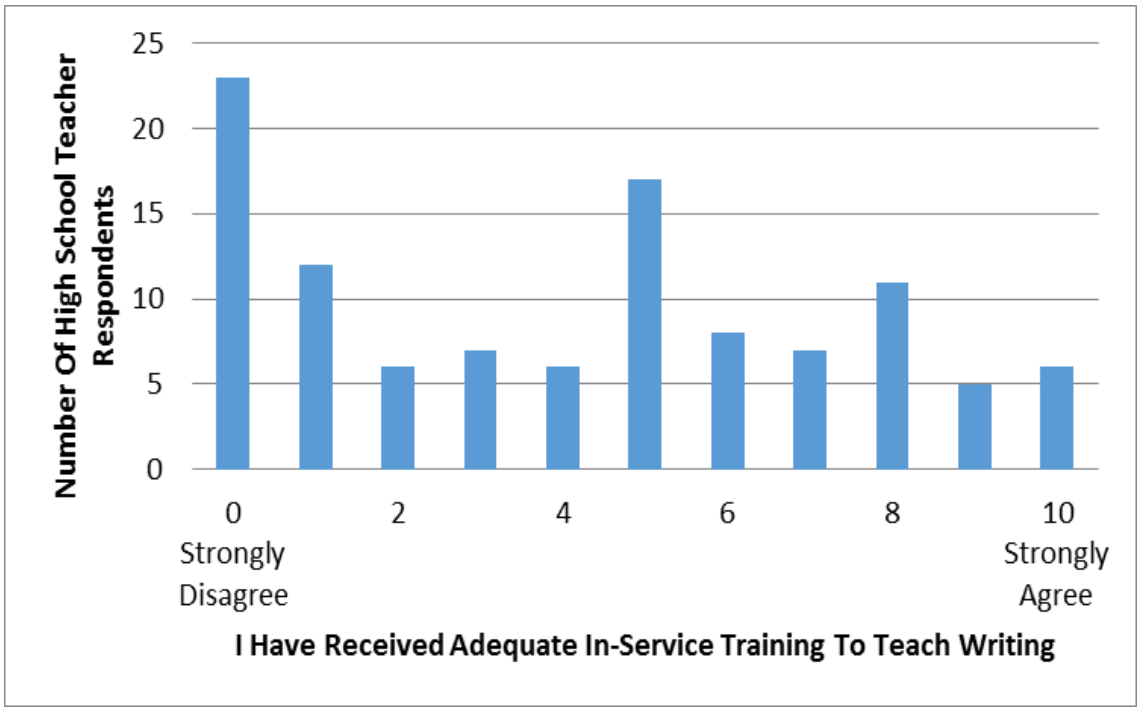


Figure 5.56 High School Teacher Respondents' Views on Adequacy of In-Service Training Received to Teach Writing

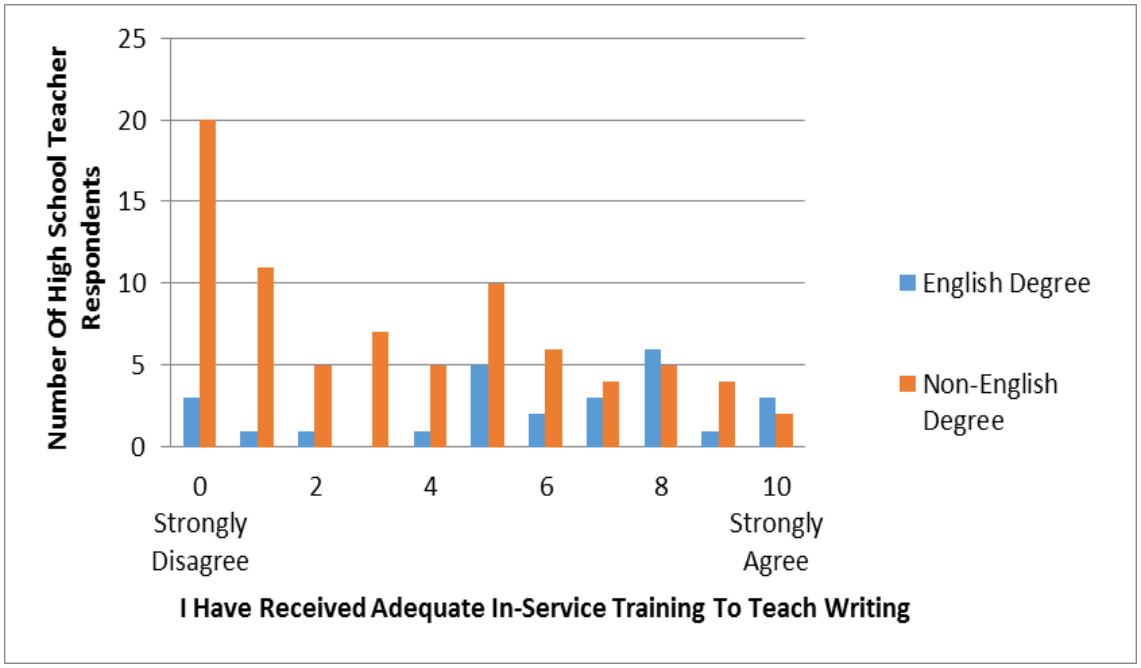


Figure 5.57 High School Teacher Respondents' Views on Adequacy of In-Service Training Received to Teach Writing by English or Non-English Degree

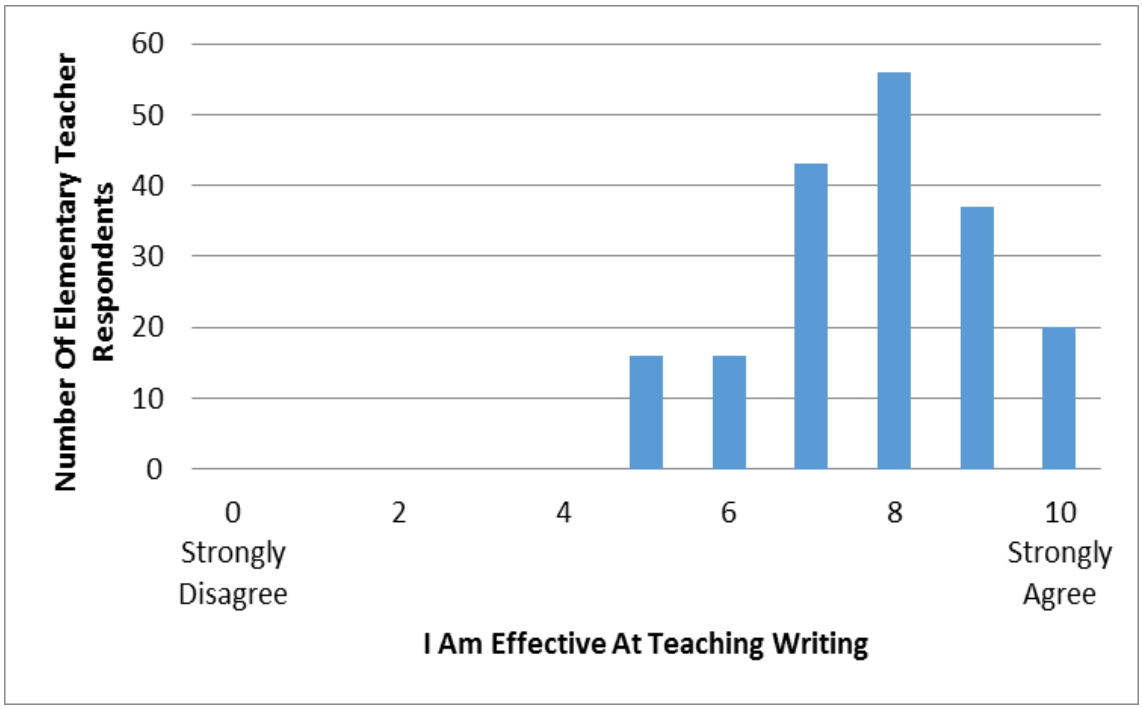


Figure 5.58 Elementary Teacher Respondents' Views on Their Effectiveness at Teaching Writing

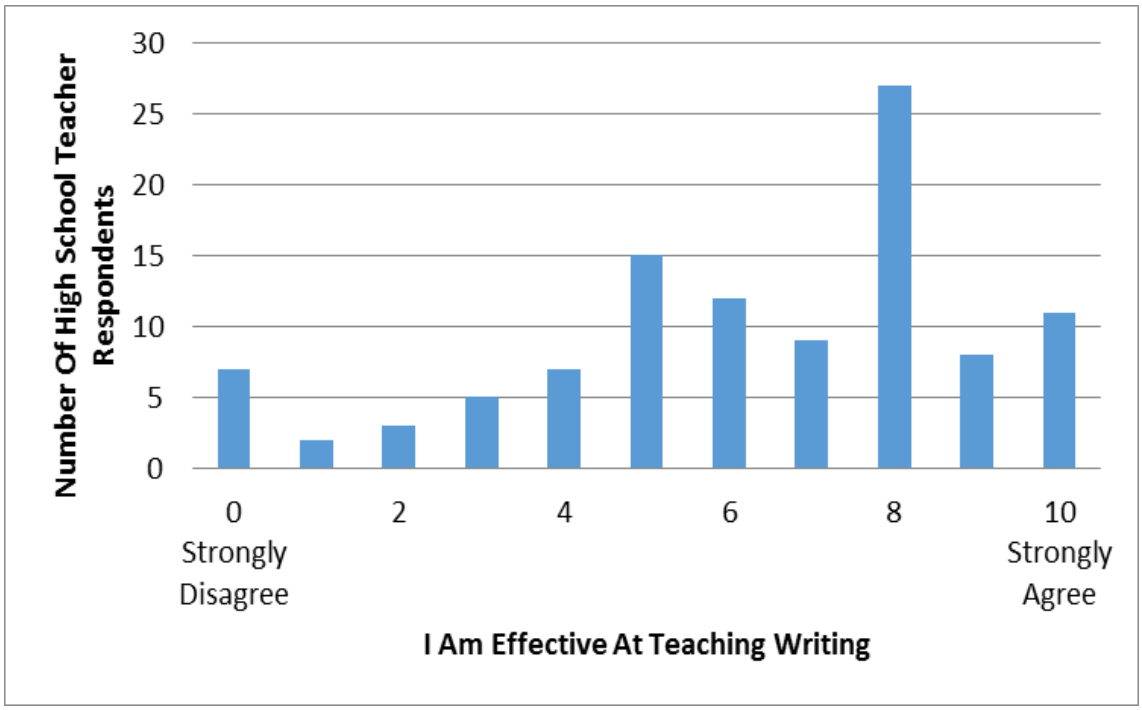


Figure 5.59 High School Teacher Respondents' Views on Their Effectiveness at Teaching Writing

5.6.6 Teachers Views on Their Enjoyment of Teaching Writing

Teacher respondents rated the statement "I enjoy teaching writing" on a scale from 0 to 10, where 0= "strongly disagree" and 10= "strongly agree". Responses were analysed for both elementary and high school teachers. This was compared with a theoretical distribution of equal values for each category. There was a statistically very highly significant difference for elementary teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=188) = 259.72, p= 4.88 $x10^{-50}$). No elementary respondents gave ratings under "2".The most frequent rating was "10" (n=58) closely followed by "8" (n=50) (see figure 5.61, p.195). A response of "6" or higher was given by 90.4% of the elementary respondents.

There was a statistically very highly significant difference for high school teachers between the observed and the theoretical expected values ($\chi 2$ (df=10, N=106) = 42.81, p= 5.37 $x10^{-6}$). The most frequent rating was "10" (n=23) followed by "8" (n=18) and "5" (n=16) (see figure 5.62, p.196). A response of "6" or higher was given by 61.3% of the high school teacher respondents.

Seventy-seven of the 103 high school teacher respondents to this question had degrees without English included as a subject specialism when training ("Non-English degree"). The most frequent rating was "5" (n=16) with notable numbers selecting "8" and "10" (both n=10) (see figure 5.63, p.196). "0" was selected by five. A response of "6" or higher was given by 46.8% of the high school teacher respondents with non- English degrees.

Twenty-six of the high school respondents to this question had degrees with English included as a subject specialism when training. The most frequent rating was "10" (n=11) followed by "8" (n=7) (see figure 5.63, p.196). A response of "6" or higher was given by 100 % of the high school teacher respondents with English degrees.

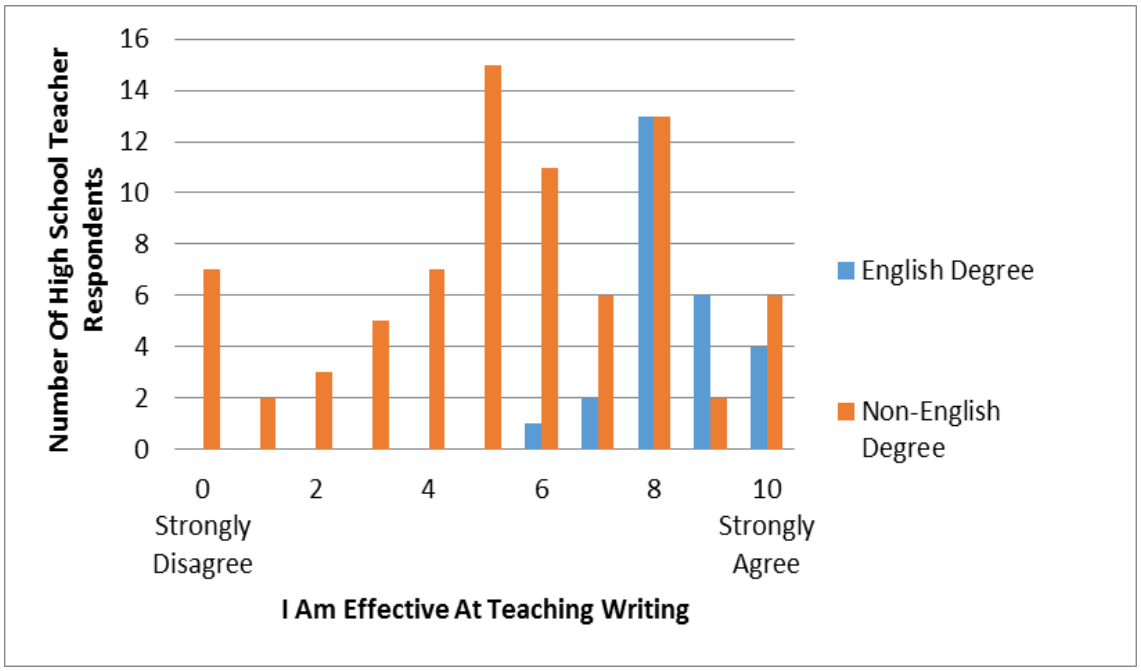


Figure 5.60 High School Teacher Respondents' Views on Their Effectiveness at Teaching Writing by English or Non-English Degree

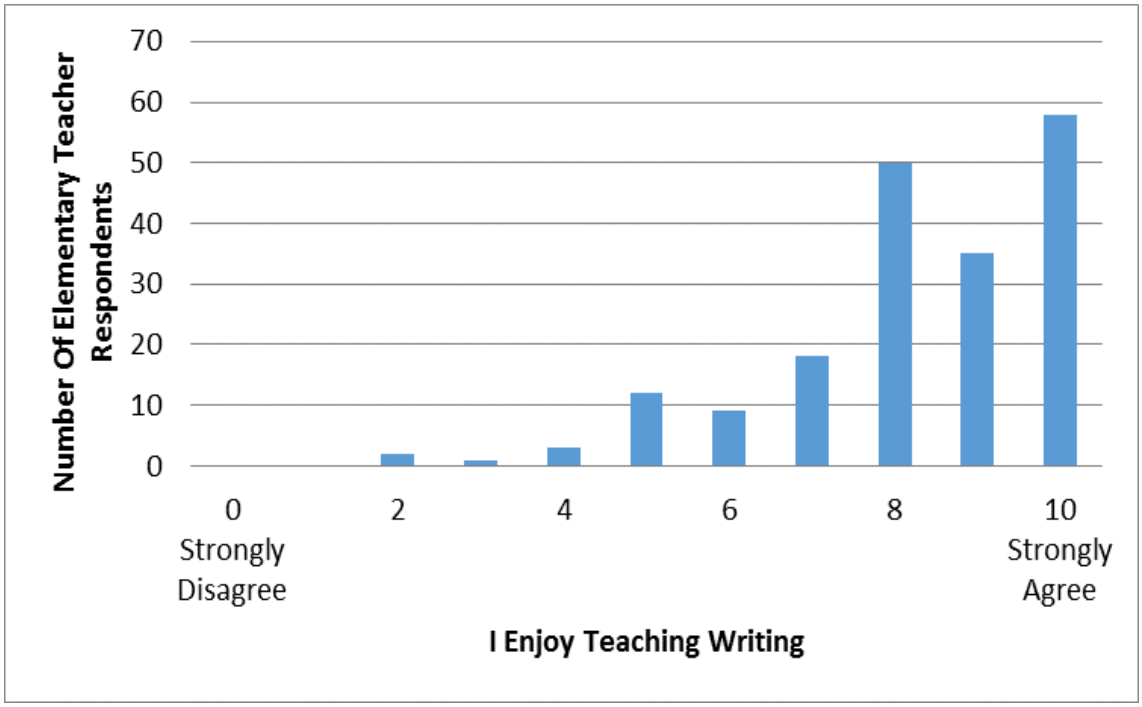


Figure 5.61 Elementary Teacher Respondents' Views on Their Enjoyment of Teaching Writing

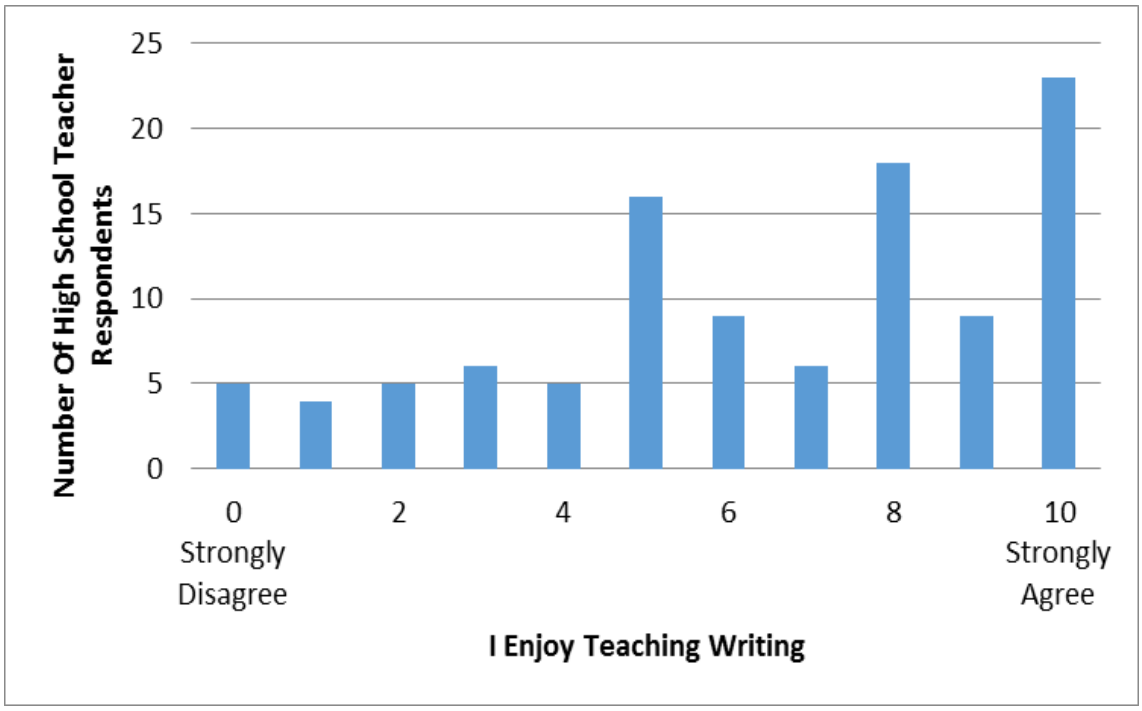


Figure 5.62 High School Teacher Respondents' Views on Their Enjoyment of Teaching Writing

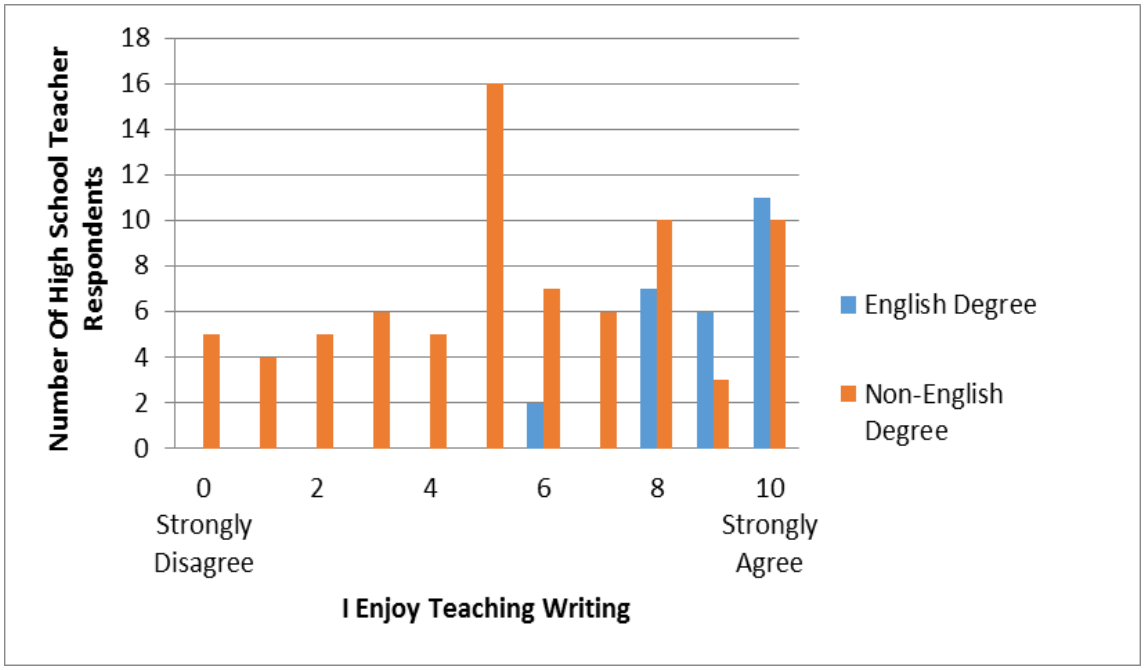


Figure 5.63 High School Teacher Respondents' Views on Their Enjoyment of Teaching Writing by English or Non-English Degree

5.7 Qualitative Data

5.7.1 Response Rate

Teachers were invited to note any thoughts or comments they wanted to make. The total number who responded was 89; 39 high school teachers (29.7% of the 131 who responded to the survey) and 50 elementary teachers (23.3% of the 214 respondents). The majority of respondents did not comment. Responses were categorised into themes (see table 5.9). Quotes given below refer to teacher respondents who addressed the theme under discussion in that subsection.

Table 5.9 Teachers' Themed Responses to an Open-Ended Question Inviting Comments

Response Themes	**Frequency**
They Teach Some Aspects Of Writing Related To Their Subject	14
Inadequate Standards Of Students' Writing	12
Benefits Of The Big Writing Elementary Writing Scheme	11
More/Better Information Technology (IT) Equipment Required	10
Time For Writing	6
Training	6
Experiences/Stimuli Aid Writing	5
Importance Of Writing	5
Requirement For Both IT Skills And Handwriting Skills	5
The Teacher Writing Survey	5
A Need For Elementary Schools To Do More	4
Importance Of Reading	4
Limits To IT Utility	4
Good Standards Of Writing In Their School/s	3
Moderation Of Writing Assessment	3
Assessment Requirements Impacting Upon What Is Taught	2
Teach More "Functional" Writing	2
Very Limited Or No Teaching Of Writing By Respondents	2
Criticism of the Big Writing Elementary Writing Scheme	1
Writing/Literacy As A Responsibility For All Teachers	1

5.7.2 They Teach Some Aspects of Writing Related to Their Subject

Fourteen teachers commented that because of the nature of their subject area they only taught certain aspects of writing, although, as an elementary Art Specialist noted, "I do manage to include some writing activities in my lessons…I have made comics and picture books with the children". References were made to different emphases, for example, a high school teacher commented, "Modern Languages teaching of writing is slightly different to other subjects as usually writing produced is shorter and there needs to be (a) focus on accuracy of spelling, grammar etc." By contrast one Science High

School Teacher noted, “I feel content is the important aspect we look for in pupils’ writing, especially in Biology when they are expected to write essays”.

The different genres of writing relating to the different subjects were alluded to but also mentioned was the need for good quality writing by a physics teacher: “It is probably not writing as the English Dept. would know it and is never more than a few paragraphs, but the ability to take concepts and explain them clearly and accurately is a vital skill”. This underlined the importance of writing to subjects other than just English.

5.7.3 Inadequate Standards of Students’ Writing

Reference was made to students’ writing skills being insufficient in some way by 12 teachers. The majority of these (n=10) were high school teachers. Some made reference to writing standards in general, for example, an elementary teacher commented, “I have been shocked by the quality of writing that I have witnessed as a primary teacher in schools”.

Others remarked on specific aspects, from “illegible handwriting” and “speed of writing” to “use of English grammar/spelling” and difficulties with “structure” and not knowing how to “redraft their work”.

A high school teacher who had been teaching since 1981 felt they had witnessed a “real fall in standards” in that time. It was noted that inadequate writing standards were having an impact on other curriculum areas, such as Modern Foreign Languages, Humanities (History/Geography/Modern Studies) and Administration. One high school teacher felt that standards were sufficient until students faced the challenges of senior school when it could take six months to coach the students in essay writing. Another high school teacher observed some consequences of insufficient skills in later high school, “Pupils get to upper secondary and do not have the tools to redraft their work; this causes frustration and makes it very difficult for them to reflect on and edit their work”.

5.7.4 Benefits of the Big Writing Elementary Writing Scheme

The Local Authority had provided training to elementary teachers in the commercially available Big Writing scheme, consequently only elementary teachers made reference to it (n=11). Its effectiveness was noted (n=3) and reference made to improved "teacher confidence" by respondents. One teacher remarked, "I do feel this is the best system I have used to date" while another noted that it had "made it easier to teach fiction writing and give the children skills they can transfer to non-fiction texts". The writing activities were seen as "fun and good to use with a class" although the same teacher went on to state that they also used their own ideas. With regard to evaluation, an elementary teacher declared that, "It provides a very useful set of assessment criteria which I feel have made levelling writing and achieving consistency with colleagues easier". The utility of the assessment tools were noted by two others.

5.7.5 More/Better Information Technology (IT) Equipment Required

The second most popular theme was that relating to the availability IT (n=10). Reference was made to the age and poor quality of the hardware available in some schools with devices described as, "slow" or "obsolete". This was seen as a barrier to developing essential life skills. An elementary teacher remarked, "Writing as a skill for life now needs to become just that – it requires to be taught in an up-to-date manner incorporating tablets, smartphones, laptops and computers rather than the more traditional methods of pen and paper. However, lack of resourcing (in technology) …does not allow pupils to meet their full potential in becoming ready for real life demands." The actual numbers of devices available were also an issue as the costs involved meant access was frequently shared although there were apparently some differences between schools. One elementary teacher stated, "I feel that some schools are being left behind with tablets etc. because of lack of money to buy them in the quantity that would be helpful in class." Another noted that every student needed a laptop while a high school teacher wrote that individual computer access would prevent students having to "re-write constantly". A high school teacher highlighted an increased demand for IT devices for students to complete National 3 and above Added Value Reports/Assignments towards their qualifications. This necessitated IT not just for processing but also for completing research.

Despite this, the teacher felt that there was, "inadequate access to computers during the school day and a woeful lack of printers…This disadvantages every child who travels by bus and has to leave school promptly and/or those who do not have access to a computer at home…" Thus these shortages could be seen as mechanisms for reinforcing social inequality. A potential way forward was suggested by a high school teacher: "The use of pupils' smartphones could be a brilliant way of making a curriculum accessible to all". An elementary teacher made a similar remark but added that it "opens up a whole lot of other problems/issues"

In order to fully exploit IT broadband internet access was seen as essential for both teachers and students. One exasperated high school teacher exclaimed that it was, "ridiculous that we cannot have this access!" The software available was also raised as an issue, with an elementary teacher in the lower grades opining that voice recognition software would support writing development in younger children. It was claimed by another elementary teacher that the use of the Click 6 software, which allowed the text produced to be said aloud to the student, had led to a marked improvement in standards.

5.7.6 Time for Writing

Some teachers were finding it hard to find the time to teach writing (n=6) with reference made to, "overloaded content in courses" at high school and the demands of the timetable at elementary school. One elementary teacher stated, "Time is a problem as we have to be an expert at everything from PE to music as well as writing. In my opinion we should be able to concentrate on reading, writing and maths and add other things in smaller parts but unfortunately I need to get in two hours of PE every week too".

5.7.7 Training

Comments were made regarding training to teach writing by six teachers. The three elementary teachers who mentioned this area wanted the current In-Service training to continue (n=1) or expressed a desire for more training in the area. This was to "*keep* my skills up-to-date" (italics added) or to "*continue* to develop my skills" (italics added). The high school respondents' comments had a different tone (n=3). A Religious

Education teacher noted that the survey itself had made the person aware of their "lack of training in teaching writing" while another high school teacher felt there was a requirement for "better training at how to monitor progress in writing and how to intervene appropriately when progress is not being made". Another bitterly commented on their own teacher training, which it was felt was, "completely useless in practice and does not make good teachers".

5.7.8 Experiences/Stimuli Aid Writing

Five teachers remarked on the beneficial effects of experiences and other stimuli upon writing, as an elementary teacher observed, "…good stimuli- of whatever nature- is key to helping students express ideas". This was supported in the comments of an elementary teacher who found that children produced better writing when they had been on a school trip or visit. The one high school teacher to mention this area explained how they linked drama experiences to writing. Such a connection was recommended by an elementary teacher who declared, "There should be a more holistic approach drawing on ideas from Drama, Art and Music to further children's enthusiasm in creating texts. This would allow more three dimensional characters and ideas to be formed in children's imaginations…"

5.7.9 Importance of Writing

Five teachers commented on this. Two elementary teachers felt that writing was "important". Two high school teachers who referred to this felt it was "crucial" and "essential". A third high school teacher noted, "These skills in writing are needed in many contexts across secondary school and later on as part of college and university courses in many disciplines".

5.7.10 Requirement for Both IT Skills and Handwriting Skills

Four of the five comments referencing the necessity of IT and handwriting skills were from elementary teachers, as one put it, "I am concentrating in giving them a good grounding in both". The high school teacher who commented noted that, "writing and

increasingly IT literacy are crucial to first access the curric.(ulum) and to demonstrate knowledge, for attainment".

5.7.11 The Teacher Writing Survey

Only high school teachers made comments about the survey itself (n=5). Three criticised the questions to differing degrees. One struggled with the meaning of the word "writing": "It was difficult to identify if you meant the physical task of writing… OR the more abstract skills of writing, i.e. conceiving, producing and presenting a piece of work". Another noted that many questions "didn't comfortably fit my subject specialism". One high teacher was cynical about the exercise: "The survey questions are too generalised in my opinion to aid targeted research and will result in proving whatever is already intended". However, another teacher observed, "There are some good practical strategies for improving writing – many touched upon in this survey". A music teacher explained that the responses made were specific to that subject but nonetheless was positive, exclaiming, "Good luck with your research!"

5.7.12 A Need for Elementary Schools to Do More

All of the four comments on this area were from high school teachers. It was felt that more could be done at elementary school to support writing at high school, as students were, "failing long before they arrive at Secondary". The same teacher felt this was a barrier to success at high school or as they put it: "If the 'cake' is not baked in Primary, Secondary have nothing to put the icing on". One teacher believed that better teaching of reading at elementary school was required. The other three all declared that the root of the problem lay in the curriculum being too broad. One went further, suggesting the problem lay with elementary teachers who, "seem scared to bore pupils, and thus avoid giving them relentless practice session(s) on the things that really matter – writing well is tough and needs lots of time devoted to it and if done well does not need to be boring".

5.7.13 Importance of Reading

Four comments were made on this theme. Two high school teachers emphasised the

importance of reading skills as a prerequisite for good writing; one noted, “Children should not be expected to write at a level that is greater than their ability to read”. One elementary teacher reported their practice in linking reading and writing. Another teacher highlighted perceived benefits: “Reading gives children ideas and vocabulary to bring to their own texts”. It was also viewed to aid spelling and punctuation.

5.7.14 Limits to IT Utility

Four teachers remarked upon necessary limits to the use of IT by students. One elementary teacher opined, “I do not see the place of a Smartphone in the teaching of writing. Sorry”.

The high school teachers were more unequivocal, one stated, “I think there is too much dependence on IT when considering writing- it masks the REAL purpose of the task.” Another remarked, “Writing… is an essential skill which if left to IT would be a disaster”. The third high school teacher forcibly stated that students should “be encouraged to spend time on individual pieces of writing without relying on technology to do the work for them…STOP GIMMICKS, START TEACHING!!!”

5.7.15 Good Standards of Writing in Their School/s

Three elementary teachers declared that there were good standards of writing in their schools. One noted that there had been “very good feedback from H.M.I.E in regard to the teaching of writing and the children’s attainment levels in this area” (HMIE, Her Majesty’s Inspectorate of Education, inspected schools on behalf of the government). Another elementary teacher believed that writing standards were high, but only as a consequence of dropping the Big Writing elementary writing scheme approved by the Local Authority. No high school teachers mentioned good standards of writing in their schools.

5.7.16 Moderation of Writing Assessment

Three comments were made on this theme. One high school teacher and one elementary teacher mentioned the importance of moderation, i.e. sharing standards, both

within their stage and between stages. An elementary teacher explained, "I find assessment of writing quite difficult and moderation of writing pieces is effective in ensuring marking is coherent across the school/partnership" (*A partnership refers to a pair or more elementary schools who share a head teacher*).

5.7.17 Assessment Requirements Impacting Upon What Is Taught

Two elementary teachers commented on this area. One elementary teacher reported, "I feel teachers are under pressure from outside tests that need to be good so some aspects of the class work is to make sure the children do well in those (INCAS)". Pupils in the Local Authority were assessed using an online programme called InCAS (Interactive Computerised Assessment System) in P3, P5 and P7 (Primary 3 = average age six years 11 months at start of academic year; P7 = average age 10 years 11 months at start of academic year). Some schools assessed annually. The assessments examined most aspects of literacy including spelling, but not writing. Another elementary teacher observed that the requirement for pieces of writing as evidence was having unintended consequences in that it "restricts the freedom to allow children to write at length and develop/revise/draft and redraft work."

5.7.18 Teach More "Functional" Writing

Two teachers felt that the type of writing taught laid too much emphasis upon creative writing. One primary teacher commented, "I feel strongly that functional writing is the most relevant or purposeful as a life skill, and should receive the strongest focus as creative/imaginative writing is rarely if ever used in adulthood and most adults who use this genre have much innate natural ability". A high school teacher felt the same way, describing functional writing as, "essays etc."

5.7.19 Very Limited or No Teaching of Writing by Respondents

Two high school teachers referred to this area. A high school maths teacher noted that, "we do not teach writing". Another explained, "Our subject is practical based…therefore very little 'writing' is carried out…other than phrases/pictures etc."

5.7.20 Criticism of the Big Writing Elementary Writing Scheme

One elementary teacher believed that the introduction of the scheme into their school had been counter-productive. The teacher felt standards were already high in the school and stated that the scheme was "a barrier to my teaching and stifled creativity within the classroom". The teacher explained that the scheme "does not teach writing skills, story-telling or the structure of writing". The person went on to declare, "The assessment tools of this scheme allow poor pieces of writing to achieve a high level …" The teacher continued, "The pupils in my class are proud of what they have achieved in writing since ditching the Big Writing Scheme".

5.7.21 Writing/Literacy as a Responsibility for All Teachers

One high school teacher made reference to writing/literacy being a responsibility for all, commenting "Teachers of all subject(s) should encourage good literacy (Not just English teachers). No elementary teachers mentioned this theme.

Chapter 6: Teacher Survey Summary and Discussion

A summary of the results from the teacher survey will be given. This will be followed by a discussion.

6.1 Summary

6.1.1 Response Rate and Demographics

The overall response rate for the survey was 23.15% of the Local Authority-employed teachers in the region (see table 5.1, p.137). Of those who attempted the survey 17% did not get beyond giving demographic information. There was a higher response rate from elementary teachers (30.7%) than high school teachers (16.5%). With regard to representativeness, there were no statistically significant differences between the respondents and the Local Authority teacher population in terms of gender at elementary level or high school level. The respondents' length of teaching experience (see figure 5.1, p.139) could not be compared with the Local Authority teacher population because the latter was not available. There were statistically very highly significant differences among responders in length of teaching experience compared with a theoretical distribution of equal numbers for each category. This was also true when elementary teachers and high school teachers were considered separately. The number of responses was greatest for those with more than 21 years of teaching experience, accounting for 35.6 % of the total. However, this was the broadest category. The remainder were quite flatly distributed although a relatively large number of responses came from teachers with five to eight years' teaching experience.

The Local Authority did not have a record of the number of teachers who taught at each grade level available for comparison with the respondents to this study. The grades taught by the respondents were reasonably evenly distributed with a range of 86 to 126 teachers teaching at each grade level some of the time (see figure 5.2, p.139). The median grades taught were also unavailable for the Local Authority as a whole. The elementary respondents' median grades ranged in response numbers from 23-38 while high school teacher respondents' ranged from zero to 53 (see figure 5.3, p.141). The elementary median grades had a relatively flat distribution whereas the high school grades had a somewhat normal distribution, with a peak around the centre. These

differences may have reflected differences in the allocation of grades for teaching in the two sectors. The Local Authority did not have data for number of teachers teaching different combinations of subjects at elementary level. However, they had a record of the different types of elementary teachers (see table 5.5, p.144). Around half of the elementary teacher respondents did not answer this question and this has implications for validity. The majority of respondents who answered this question were general elementary teachers (primary teachers), as in the Local Authority as a whole. By contrast, all the high school teacher respondents reported which subject/s they taught. The Local Authority had high school teacher totals by subject area, using Scottish Government-provided categories. Management staff or supply teachers were not included. Comparisons were made using these same categories (see table 5.6, p.145). Where multiple subjects were given an assumption was made that they were taught in equal percentages. An assumption was also made that respondents worked full time. The Learning Support, Additional Support Needs (ASN) General and ASN Behavioural Support categories used by the Scottish Government were rarely used by respondents so it was decided to combine these responses under the term "Additional Support for Learning". The expected proportions of subjects taught were calculated (see table 5.6, p.145) based on the 697 High School Teachers in the Local Authority who were not Depute Heads/Head Teachers (who would rarely teach) and for whom data was available. An assumption was made that no High School Depute Heads or Head Teachers took part in the survey. Perusal of the figures showed numerous subject areas where the numbers were higher or lower than would be expected. There were proportionately more English, Computing, Religious Education, Modern Studies, Science (General) teachers who responded than would be anticipated. Similarly, there were fewer Home Economics, Physical Education, Art and Design, Biology, Chemistry, Geography and Additional Support for Learning (ASL) Teachers who responded.

No statistically significant differences were found in the number of students in the respondents' schools and the local authority schools as a whole at the elementary level. For high school respondents lower-numbered bands were combined to facilitate the reliable use of the $\chi 2$ test. A statistically very highly significant difference was found between the observed and expected numbers of respondent teachers in schools of different student population sizes (see figure 5.4, p.148). There were fewer teachers who responded whose schools had student populations of 401-550, 201-250 and more whose schools had student populations of 251-300 and 551-700.

6.1.2 Use of Writing Practices

Teacher respondents' reported use of writing practices were ordered by modal descriptive classification and these in turn by the percentage of respondents for each question who selected the modal category (see table 6.1, p.209). Grammar instruction lessons were the most frequently used writing practice, despite having been demonstrated to be ineffective for mainstream students (Graham et al., 2012; Graham and Perin, 2007). The provision of writing time where writing is the main focus, teaching of grammar in context and provision of teacher or assistant feedback (or feedback from trained parents) were reportedly used weekly or more by around half of respondents to those questions. The provision of writing strategy instruction, the use of product goals and the use of process goals were practices reportedly used at least weekly by around a third and at least monthly by around two-thirds of respondents. A modal descriptive classification of "Several Times a Month" was elicited for students helping each other edit/proofread and students evaluating each other's work; the latter was the practice least frequently reportedly never used. The majority of respondents used these practices at least monthly. Practices for which the modal response was "Several Times a Year" included: the teaching of summarisation skills; the use of structured co-operative learning approaches; the provision of information technology for technology-based genres; students helping each other plan writing; the provision of IT for addition / removal / rearrangement / replacement (revision) of text; students helping each other add / remove / rearrange / replace (revise) text and creativity instruction. Around a half of respondents reported using these practices monthly or more, with the exception of creativity instruction, for which the figure was around two-thirds. As the practices became less frequently reportedly used the numbers selecting "never" accordingly increased; more than a quarter of teachers reported never allowing students to help each other revise their writing or use IT to revise writing. The use of IT for producing drafts or for editing/proofreading both had joint modal categories of "Never" and "Several Times a Year"; over a quarter never used either provision. Visualisation/imagery instruction, students helping each other draft writing, the teaching of self-regulation and the provision of individual laptop / tablets with internet access when writing were all placed most frequently in the "never" category. However, although around a third reportedly never used those practices, the numbers of respondents who reported using them at least monthly ranged from 35.3% (visualisation/imagery) to 51.2% (teaching self-regulation).

Table 6.1 Teacher Respondents' Reported Use of Writing Practices in Order of Modal Descriptive Category. Percentage Used Never, At Least Monthly, At Least Weekly also Given.

Writing Practice	**Most Frequent Category To Describe Usage From: Never, Several Times A Year, Monthly, Several Times A Month, Weekly, Several Times A Week, Daily, Several Times A Day. (Percentage Of Respondents)**	**"Never" Used The Practice**	**Used At Least "Several Times A Year"**	**Used At Least "Monthly"**	**Used At Least "Weekly"**	**Number Of Teacher Respondents**
Grammar Instruction Lessons	Weekly (41.9%)	17.9%	82.1%	72.0%	54.5%	336
Provision of Writing Time Where Writing Is the Main Focus	Weekly (40.1%)	10.7%	89.3%	76.7%	58.9%	309
Teach Grammar In Context	Weekly (32.6%)	13.6%	86.4%	76.6%	53.4%	337
Provide Teacher or Assistant Feedback (or Feedback from Trained Parents) When Assessing Writing	Weekly (31.4%)	11.8%	88.2%	77.4%	52.1%	340
Provide Writing Strategy Instruction	Weekly (30.4%)	9.6%	90.4%	72.2%	40.9%	332
Use Product Goals (Performance Goals)	Weekly (25.1%)	24.0%	76.0%	60.5%	36.5%	342
Use Process Goals (Learning Goals)	Weekly (23.6%)	19.8%	80.2%	61.5%	36.2%	343
Students Evaluate Each Other's Work	Several Times A Month (27.5%)	1.9%	98.1%	76.9%	30.5%	308
Students Help Each Other Check Spelling, Punctuation, Grammar, Syntax (Edit/Proofread)	Several Times A Month (24.3%)	17.0%	83.0%	60.9%	24.0%	312
Teach Summarisation Skills	Several Times A Year (38.4%)	16.7%	83.3%	44.8%	20.7%	299
Use Structured Co-operative Learning Approaches	Several Times A Year (36.5%)	18.4%	81.6%	45.0%	11.3%	309
Provision of Information Technology for Technology-Based Genres	Several Times A Year (32.8%)	15.3%	84.7%	51.8%	21.8%	307
Students Help Each Other Plan Writing	Several Times A Year (30.0%)	22.4%	77.6%	47.6%	16.3%	313
Provision of IT for Addition/Removal/Rearrangement/Replacement (Revision) of Text	Several Times A Year (28.9%)	27.4%	72.6%	43.6%	16.3%	307
Students Help Each Other Add/Remove/Rearrange/Replace (Revise) Text	Several Times A Year (28.9%)	27.4%	72.6%	43.6%	13.0%	307
Creativity Instruction	Several Times A Year (22.2%)	11.4%	88.6%	66.3%	32.3%	341

Writing Practice	**Most Frequent Category To Describe Usage From: Never, Several Times A Year, Monthly, Several Times A Month, Weekly, Several Times A Week, Daily, Several Times A Day. (Percentage Of Respondents)**	**"Never" Used The Practice**	**Used At Least "Several Times A Year"**	**Used At Least "Monthly"**	**Used At Least "Weekly"**	**Number Of Teacher Respondents**
Provision of IT for Checking Spelling, Punctuation, Grammar, Syntax of Text (Editing/Proofreading)	Never, Several Times A Year (29.3%)	29.3%	70.7%	41.4%	17.4%	304
Provision of Information Technology for Producing Drafts	Never, Several Times A Year (27.0%)	27.0%	73.0%	46.1%	18.8%	304
Visualisation/Imagery Instruction	Never (36.8%)	36.8%	63.2%	35.3%	13.2%	340
Students Help Each Other Draft Writing	Never (33.0%)	33.0%	67.0%	36.2%	7.7%	309
Teach Self-Regulation	Never (29.1%)	29.1%	70.9%	51.2%	22.4%	299
Provision of Individual Laptop / Tablets with Internet Access When Writing	Never (28.1%)	28.1%	71.9%	46.1%	21.0%	310

6.1.3 Use of Process Writing Elements

The reported use of process writing elements were summarised in table 6.2. Editing had the highest modal frequency of 10 on a scale of 0 ("Never") to 10 ("Always"). It also had the highest percentage giving a rating of six or more on the scale (73.4%) but it was closely followed by prewriting/planning (71.0%) despite the latter having a modal frequency of 8. Drafting, revising and publishing had around 50% giving a rating of six or more. In terms of those who gave a rating of four or less, the percentages were notably high for drafting (37.7%), revising (30.8%) and publishing (28.0%).

Table 6.2 Teacher Respondents' Reported Use of Process Writing Elements

Process Writing Element	**Modal Rating 0 (Never) to 10 (Always)**	**Percentage Rating 6 Or More On The Scale**	**Percentage Rating 4 Or Less On The Scale**	**Number Of Teacher Respondents**
Prewriting/Planning	8	71.0%	17.2%	307
Drafting	8	50.4%	37.7%	307
Revising	8	54.5%	30.8%	307
Editing/Proofreading	10	73.4%	18.7%	309
Publish	8	56.0%	28.0%	307

Teacher respondent views on the importance of different aspects of writing when evaluating writing were also summarised (see table 6.3). The modal values on a scale of 0 ("Not At All Important") to 10 ("Important") were highest (10) for Ideas, Organisation, Sentence Fluency and Spelling, Punctuation and Grammar. These all had percentages in the 90s giving ratings over six. Handwriting had the lowest modal rating followed by Voice and Visual Layout. Voice had the highest rating of four or less.

Table 6.3 Teacher Respondents' Views on the Importance of Different Aspects of Writing When Evaluating Writing

Aspect Of Writing	**Modal Rating 0 (Not At All Important) to 10 (Very Important)**	**Percentage Rating 6 Or More On The Scale**	**Percentage Rating 4 Or Less On The Scale**	**Number Of Teacher Respondents**
Ideas	10	91.6%	4.0%	300
Organisation	10	93.9%	3.3%	298
Voice	8	70.6%	17.6%	296
Sentence Fluency	10	90.6%	6.6%	300
Spelling, Punctuation, Grammar	10	93.0%	3.3%	300
Handwriting	7-8	72.2%	14.0%	299
Visual Layout	8	80.6%	8.7%	299

6.1.4 Use of IT

There was a contrast between elementary teachers and high school teachers respondents about the sufficiency of IT available to support writing (see table 6.4). Elementary teachers gave a modal rating of 5, on a scale of 0 (strongly disagree) to 10 (strongly agree). High school teachers gave a modal rating of 10.

Table 6.4 Teacher Respondents' Views on the Use of IT to Support Writing

Statement	**Modal Rating 0 (Strongly Disagree) to 10 (Strongly Agree)**	**Percentage Rating 6 Or More On The Scale**	**Percentage Rating 4 Or Less On The Scale**	**Number Of Teacher Respondents**
Students Have Sufficient IT Access To Support Their Writing Activities (Elementary Teachers)	5	43.4%	40.3%	191
Students Have Sufficient IT Access To Support Their Writing Activities (High School Teachers)	10	46.9%	41.5%	113
I Would Provide More IT Access If There Were More Desktop Computers, Laptops, Notebooks or Netbooks Available (Elementary Teachers)	10	72.6%	18.4%	190
I Would Provide More IT Access If There Were More Desktop Computers, Laptops, Notebooks or Netbooks Available (High School Teachers)	10	76.0%	28.0%	111
I Would Provide More IT Access If There Were More Tablets Available	10	63.0%	25.0%	303
I Would Provide More IT Access If There Were More Smartphones/Mobiles Available	0	30.8%	62.1%	301
I Would Provide More IT Access If There Were More Up-To-Date Devices Available	10	63.3%	26.3%	300
I Would Provide More IT Access If The Internet Speed And/or Bandwidth Were Better	10	59.8%	28.9%	301
I Would Provide More IT Access If I Had More Training On How To Do So (Elementary Teachers)	10	65.4%	20.5%	185
I Would Provide More IT Access If I Had More Training On How To Do So (High School Teachers)	10	49.5%	36.0%	111

However, when the percentages giving ratings of four or less or six or more on the scale were calculated the figures were not notably different. Teachers were largely in agreement that they would use IT to support writing more often if they had more equipment, more up-to-date equipment, better internet access and more training; they gave modal ratings of 10 for statements relating to these areas. The percentages which agreed to some extent, i.e. gave a rating of six or more, ranged from 49.5% to 76.0%. More elementary teachers (65.4%) expressed agreement that they would use IT more often if they had more training than high school teachers (49.5%). A clear exception in terms of equipment was smartphones/mobiles with a modal value of 0 being achieved. However, 30.8% nonetheless did give a rating of six or more. The percentage of teachers who reported allowing students to use a variety of personally owned electronic devices at school was relatively low, ranging from 15.6% (laptops) to 7.8% (smartphones) (see table 5.8, p.170).

6.1.5 Beliefs about Writing

Respondent teacher beliefs about writing in terms of responses to statements on a scale of 0 (strongly disagree) to 10 (strongly agree) were summarised (see table 6.5, p.214). Writing was seen as an essential skill for students (modal value=10) and the modal value for enjoyment of teaching writing was 10. However, although 90.4% of elementary teachers gave a rating of six or more, i.e. agreeing to some extent, only 61.3% of high school teachers did so. When the latter were separated between those who had studied English within their degree and those who had not a marked difference was found: a rating of six or more was given by 100% of those with English in their degree but 46.8% of those without English in their degree. Elementary teachers felt more prepared by their teacher training course (modal value=5) and in-service training (modal values 5 and 8) than their high school equivalents (modal value = 0 for both). A difference was again found between high school teachers with and without English elements in their degrees: those with English felt more prepared by their teacher training course (modal value= 5) and in-service training (modal value=8) and felt they were more effective at teaching writing (modal value= 8) than those without English (modal values 0, 0 and 5 respectively). The high school teachers with English in their degrees all agreed to some extent (a rating of six or more) that they were effective teachers of writing. A high percentage (91.4%) of elementary teachers also agreed they were effective teachers of writing to some extent (modal value=8).

Table 6.5 Teacher Respondents Beliefs about Writing

Statement	**Modal Rating 0 (Strongly Disagree) to 10 (Strongly Agree)**	**Percentage Rating 6 Or More On The Scale**	**Percentage Rating 4 Or Less On The Scale**	**Number Of Teacher Respondents**
Writing Is An Essential Skill For Students	10	98.6%	0%	299
My Students Have The Writing Skills They Need To Do The Work In My Class (Elementary Teachers)	8	86.2%	5.2%	189
My Students Have The Writing Skills They Need To Do The Work In My Class (High School Teachers)	6	60.5%	22.9%	109
My Teacher Training Course Adequately Prepared Me To Teach Writing (Elementary Teachers)	5	49.4%	31.7%	186
My Teacher Training Course Adequately Prepared Me To Teach Writing (High School Teachers)	0	33.3%	51.8%	105
My Teacher Training Course Adequately Prepared Me To Teach Writing (High School Teachers Non-English Degree)	0	29.1%	58.8%	80
My Teacher Training Course Adequately Prepared Me To Teach Writing (High School Teachers – English Degree)	5	46.1%	32.0%	25
I Have Received Adequate In-Service Training To Teach Writing (Elementary Teachers)	5 & 8	61.4%	21.3%	187
I Have Received Adequate In-Service Training To Teach Writing (High School Teachers)	0	34.2%	50.0%	105
I Have Received Adequate In-Service Training To Teach Writing (High School Teachers Non-English Degree)	0	26.6%	60.8%	77
I Have Received Adequate In-Service Training To Teach Writing (High School Teachers English Degree)	8	57.6%	23.0%	26
I Am Effective At Teaching Writing (Elementary Teachers)	8	91.4%	0%	188
I Am Effective At Teaching Writing (High School Teachers)	8	63.2%	22.6%	103
I Am Effective At Teaching Writing (High School Teachers Non-English Degree)	5	48.1%	31.2%	77
I Am Effective At Teaching Writing (High School Teachers English Degree)	8	100%	0%	26
I Enjoy Teaching Writing (Elementary Teachers)	10	90.4%	3.1%	188
I Enjoy Teaching Writing (High School Teachers)	10	61.3%	23.5%	103
I Enjoy Teaching Writing (High School Teachers Non-English Degree)	5	46.8%	32.5%	77
I Enjoy Teaching Writing (High School Teachers English Degree)	10	100%	0%	26

Differences were also apparent in the views of the adequacy of the writing skills of students to do the work in the teachers' classes. The modal value for elementary teachers was eight, with 86.2% giving a rating of six or more. By contrast, the modal value for high school teachers was six, with 60.5% giving a rating of six or more.

6.1.6 Qualitative Data

Qualitative information was obtained through the invitation for teachers to note any thoughts or comments they wanted to make. The 89 responses were categorised into themes (see table 5.9, p.197). The largest category made reference to the fact the respondents only taught some aspects of writing due to their high school subject/s or elementary specialism (n=14) while two felt their teaching of it was very limited or not done at all. Nonetheless, one high school teacher made reference to writing/literacy being a responsibility for all. Considerable numbers made references to inadequate student writing standards; ten of the twelve comments being from high school teachers. By contrast, three elementary teachers noted the high standards of student writing in their schools. A commercially available scheme for which training had been provided by the Local Authority ("Big Writing") was referred to positively by 11 respondents but negatively by one. A notable number (n=10) felt that more/better IT was required although a few (n=5) felt IT use should not be extended or should even be reduced (n=2); one teacher exclaimed, "STOP GIMMICKS, START TEACHING!!!" Five respondents made reference for a need for both IT and handwriting; four of these comments came from elementary teachers. Some respondents made reference to difficulties finding time for writing (n=6). The need to maintain or extend training was referred to (n=6) as was the importance of writing (n=5) and the value of experiences/stimuli prior to writing (n=5). Comments were made about the writing survey itself (n=5) with three criticising the questions and one even being cynical as to its purpose. Two respondents made positive comments. The importance of reading in supporting writing skills was expressed by four teachers, two from each sector. Some high school teachers opined that elementary teachers needed to do more, one stating, "If the 'cake' is not baked in Primary, Secondary have nothing to put the icing on". Reference was made by a few to sharing standards, i.e. moderation of writing assessment (n=3). Two teachers felt there was a need for more "functional" writing such as essays rather than creative writing. In addition, the unintended consequences of assessments upon the curriculum were referred to (n=2).

6.2 Discussion

6.2.1 Limitations of Current Study

Only respondents who got beyond the demographic questions were included in the results and response rate and this meant 17% were excluded. This was a limitation because it was not known how else these two groups might have differed and to what extent this might have affected the results had they got beyond the first questions. The overall response rate was 23.15% (N= 345, see table 5.1, p.137). The minimum returned sample sizes for an alpha level of .05 were achieved (306 for categorical data such as gender and 110 for continuous data such as ratings scales) (Barlett, Kotrlik and Higgins, 2001). This assumed that the sample was randomly selected when in fact it was determined by the willingness of the respondents to participate. Nonetheless, the sample was nearly three times the minimum size required for continuous data. The only categorical question which applied to the whole sample which did not achieve 306 responses was the one regarding subject/s currently being taught (N=241). This was low since over 48% of elementary teachers did not answer the question (see table 5.4, p.143); perhaps because the majority of elementary teachers in Scotland teach the full curriculum.

An assumption was made when generalising the findings of this survey that the respondents did not differ from non-respondents in ways that would have affected the results. It would follow that the higher the response rate was the greater the chance that the two groups were alike and so a larger response for this survey would have been preferable. However, non-respondents might not necessarily vary in *substantive* ways from respondents, even with lower response rates (Holbrook, Krosnick & Pfent, 2008); although they might do. Smaller response sizes, such as in this study, are not always an indication of reduced accuracy: Visser, Krosnick, Marquette and Curtin (1996) actually found that mail surveys were more accurate at lower response rates than telephone surveys with higher response rates. They believed this was in part to the mail surveys being more anonymous, like this teacher writing survey.

Proportionately more elementary than high school teachers responded (30.7%, 16.5%) potentially making the elementary findings more reliable than the high school ones. If the high school respondents (n=131) were considered as a separate data set the

minimum returned sample sizes for an alpha level of .05 were achieved for continuous data (104), but not for categorical data (such as whether or not they had English within their degree) (260) (Barlett et al., 2001).

The teacher writing survey sample did not vary from the Local Authority teacher population in terms of gender. Other variables could not be considered due to the lack of data kept by the Local Authority. Data was not available for the teacher population on: length of teaching experience; grade level/s taught; median grade level taught.

There were very highly significant differences among responders in comparison with a theoretical distribution of equal numbers in each category of length of teaching experience; the number of responses was greatest for those in the broadest category with more than 21 years of teaching experience. However, with no Local Authority figures to compare this with the significance of this was unknown. The grades taught were reasonably evenly distributed (see figure 5.2, p.141), as were the median grades at elementary level. The median grades at high school level had a somewhat normal distribution. This could have meant a lack of representation of teachers of lower and higher grades. However, it was most likely a reflection of differences in allocation of classes in high schools in comparison with elementary schools, as high school teacher grades taught had been reasonably evenly distributed. The numbers of elementary teachers teaching different combination of subjects was also unknown. Consequently, the sample could have varied in substantial ways from the teacher population in these domains. Moreover, there may have been variables which were not considered which had an influence on whether or not and how they responded. These variables might have reflected some bias compared with the Local Authority teacher population as a whole.

The Local Authority did have records for the different types of elementary teachers, such as music specialists (see table 5.5, p.144). This question was not asked. Instead, elementary respondents were put into the categories on the basis of the subjects they reported teaching. The majority were general elementary teachers (primary teachers), as in the Local Authority as a whole but around half of the elementary teachers did not answer the question. This left the possibility that the sample might have been unrepresentative although this would have necessitated Music, Art and PE teachers to have responded in greater numbers to a survey on writing than general elementary

teachers; this would not seem likely. A question asking which type of elementary teacher they were would have been helpful and may have been answered by more teachers.

The high school teacher totals by subject area were known (see table 5.6, p.145) although assumptions were made that respondents worked full time, taught subjects in equal percentages if they taught more than one subject and that no Head or Depute Heads answered the survey; any assumptions are limitations to the study. There were more English, Computing, Religious Education, Modern Studies, Science (General) teachers who responded than would be anticipated. Similarly, there were fewer Home Economics, Physical Education, Art and Design, Biology, Chemistry, Geography and Additional Support for Learning (ASL) Teachers who responded. This makes conclusions more reliable for the former than the latter. It may have reflected the level of interest a survey on writing might elicit for teachers in different subjects or may simply have been a reflection of the sample size, as mentioned above.

No statistically significant differences were found in the number of students in the respondents' schools and the local authority schools as a whole at the elementary level, although this question assumed that teachers knew how many students were in their schools. The teachers did not give the names of their schools, which would have obviated the need for this question, as it would have compromised anonymity and potentially therefore the accuracy of the responses. By contrast, a statistically very highly significant difference was found between the observed and expected numbers of high school respondent teachers in schools of different student population sizes (see figure 5.4, p.143). There were fewer teachers who responded whose schools had student populations of 401-550, 201-250 and more whose schools had student populations of 251-300 and 551-700. Although statistically significant whether it was important in terms of potential differences between the sample and population was unknown.

Further limitations of the study related to the nature of the instrument used, namely, a survey. Participants' responses were necessarily constructions rather than objective statements of reality: depending as they did on how the respondents interpreted and answered the questions. This would have been affected by the individual respondents' knowledge and experience and motivation and may have meant that some responses were ill-informed. For example, some teachers may have had a poor understanding of

what some of the writing practices listed actually involved or the standards of writing that ought to be expected for students. Moreover, teachers might have had varying degrees of awareness of their own practice and might have exhibited Social Desirability Bias by "over reporting admirable attitudes and behaviours and under reporting those that are not socially respected" (p.545, Krosnick, 1999). This could have been overcome to some extent by including observations in the study, although peoples' behaviour can be different when being observed. In addition, answering survey questions optimally can demand a great deal of cognitive work: respondents must interpret the question, remember relevant information, integrate the information into a judgement then translate that into a response amongst the alternatives offered (Krosnick, 1999). Consequently, respondents might have been less diligent in any or all of these steps and generated satisfactory answers rather than optimal ones, while others might have gone further and interacted only superficially with the questions or selected more neutral points on scales (Krosnick, 1999).

The survey was only available online and this may have excluded some, perhaps older, teachers who were not technically-minded. However, the large number of more experienced teachers who took part suggests this was not a significant issue. In order to maintain anonymity it was not possible to have a measure of the socio-economic status of the schools in which the teachers taught. This may have been an important variable. The content of the survey, based as it was on the literature review of evidence-based writing practices contained limits associated with the limited good quality research in some areas, particularly explicit teaching and the use of IT (see Chapter 3). Moreover, not all of the interventions had been tried at both elementary and high school level.

The survey was only carried out once, although there were reminders, and in a particular geographical location in Southern Scotland; the area being largely rural. The limitations listed above are not such that the findings cannot be reasonably generalized within the Local Authority. The area of Southern Scotland where the survey took place was middle ranking in terms of deprivation (Scottish Government, 2012) and contained no large urban areas (settlements of 125,000 or more people) (see table 4.1, p.117). Some caution might therefore be required when applying these findings to areas of greater or lesser deprivation or with significant numbers living in large urban areas. Differences in teaching practices around writing have been seen between areas of different socio-economic status in the United States (McCarthey et al., 2013) and so this could be the

case in Scotland also. Similarly, large urban areas may have some different challenges compared with rural authorities; just over a third of the Scottish population lives in large urban areas (Scottish Government, 2012). Replication locally and in different parts of Scotland, such as a more urban area, would make any findings more generalizable across the country as a whole. The teacher writing survey was the first of its kind to be administered in the UK.

6.2.2 Interpretation of Results

6.2.2.1 Reported Teacher Writing Practices

When grammar instruction was excluded it was shown that on average each evidence-based practice was used at least several times a year by 79.4% of respondents (see table 6.1, p.209) with a range of 63.2% (visualisation/imagery instruction) to 98.1% (students evaluate each other's work). The practices are considered below:

i) Explicit instruction

The most frequently used writing practice was grammar instruction, despite having been demonstrated to be at best an ineffective intervention for mainstream students who were not bilingual learners. (Graham et al., 2012; Graham et al., 2007), (see table 6.1, p.209). It was reportedly used at least weekly by 54.5% of respondents. The practice was never used by 17.9% of respondents although whether this reflected greater awareness of effective writing practices was unknown. Having the SES of the schools of the teachers in the current study available might have enabled further conclusions to be drawn: McCarthey et al. (2013) had found that teachers in high socio-economic status (SES) schools only ever taught grammar in context, unlike teachers in low SES schools. Teaching grammar in context, although preferable to grammar instruction, (Graham et al., 2007) and of benefit for struggling writers, (Graham et al., 2012) had not been demonstrated to be an effective mainstream intervention in the literature. A similar percentage (53.4%) reported doing this at least weekly; this would indicate at least some of the teachers do both. It was the second most popular form of explicit instruction. Teaching grammar through instruction lessons may have persisted because it was the way the teachers themselves, however ineffectively, were taught.

Writing strategy instruction was reportedly used at least weekly by around a third and at least monthly by around two-thirds of respondents; meaning considerable numbers were not using it. The strategies of planning, drafting, revising and editing included in this practice were addressed separately, along with publishing, (see table 6.2, p.211) in order to complete the Process Writing suite (Scott et al., 2009). Differences were found: editing had the highest modal frequency of 10 on a scale of 0 ("Never") to 10 ("Always") while the rest had modes of 8. Editing/Proofreading had the highest percentage giving a rating of six or more on the scale (73.4%) closely followed by prewriting/planning (71.0%). Drafting, revising and publishing were not as frequently used as the first two elements. Around 50% of teachers gave a rating of six or more for these activities while relatively higher percentages gave ratings of four or less. The practice reportedly used the least was drafting, shortly followed by revising. Yet revision is significantly associated with writing quality (Fidalgo et al., 2008; Zhang, 2001). More of an emphasis on spelling, punctuation and grammar was being made rather than the actual quality of the writing. Editing is easier to do than revision, being rule-bound and mechanistic, and this may explain the preference. This was also evident when students were allowed to collaborate on different writing strategies (see table 6.1, p.209); the modal category for students helping each other edit being several times a month, while students helped each other revise their work a modal value of several times a year. These differences suggest that some training around the elements of process writing is required locally, despite the relatively high ratings overall, because the importance of revision had not been fully recognised.

The teaching of summarisation has large impacts at elementary and high school (Graham & Perin, 2007) but the modal category was "several times a year". This would seem to be an under-utilised strategy. Creativity instruction was reportedly used at least monthly by 66.3% of teachers. This seems high but perhaps reflects the simplistic definition used in the survey. By contrast, visualisation/imagery instruction was never used by over a third of teachers but a third reported using it at least once a month; why this polarisation occurred was unclear.

ii) Collaborative and cooperative learning approaches

The most frequently used of these approaches was students evaluating each other's work. The modal descriptive classification was "several times a month" (see table 6.1,

p.209). Interestingly, the latter was the practice least frequently reported as being never used (1.9%). This is a positive finding but it might include practices such as students marking each other's work, which can be quite superficial. An open question around this area might have been illuminating. Collaboration on editing/proofreading was used at least monthly by 60.9% of teachers and more often than collaborative planning, revising or drafting which were used at least monthly by 47.65% -36.2%; the frequencies mirroring the same pattern seen with these practices when used individually as discussed above (see table 6.2, p.211). Given the importance of revision it was worth noting over a quarter (27.4%) reported never using collaborative revision.

Structured co-operative learning approaches, such as Jigsaw, had a modal descriptive classification of "several times a year" although many used it more often: 45% of respondents reported using it at least monthly (see table 6.1, p.209). Nevertheless, they were not used by 18.4% of teachers; some of these may have been unaware of the potential benefits and/or not been trained in how to do it.

iii) Information technology

Information technology was not being often used to support writing. The most popular provision of IT within the writing practice questions was for when students were working on technology-based genres such as blogs, emails and Power Points. The modal descriptive category was "several times a year" although 51.8% did it once or more per month (see table 6.1, p.209). Lower numbers reported providing IT for students to revise text, edit/proofread or produce drafts or providing individual laptops with internet access when writing despite the benefits. The range for those doing this at least once a month was 41.4%-46.1%. Over a quarter of respondents reported never providing these facilities. It would be easy to conclude that many teachers were ill-disposed towards information technology, and some may have been. However, many teachers felt that to some extent their students did not have sufficient IT access to support their writing (elementary 43.4%, high school 46.9%, see table 6.4, p.212) and the majority felt they would provide more IT access if more IT devices, more up-to-date devices and better internet speed/bandwidth were available (range 76.0% to 59.8%). A need for training was also recognised. These reported uses of IT reflected current practice in the context of resources and training that were available rather than what the teachers would have provided given the opportunity. It would have been interesting to

ask teachers how often they might have used these practices had more resources and training been available; it clearly would have been more than was reported in the survey.

A readily available supply of IT devices might have been the students' own hardware. However, most teachers reported not allowing students to use their own devices in class (see table 5.8, p.170). This was in line with the Local Authority position at the time of the survey, namely, that pupils could not be supported in bringing in their own devices to use in school. Again, it would have been interesting to consider what percentage would allow students to use their own devices if unambiguous Local Authority approval and clear guidelines were put in place.

iv) Self-regulation and self-efficacy

Most practices within this category were among the more popular ones (see table 6.1, p.209). The provision of teacher, assistant or trained parent feedback when assessing writing was reportedly done at least weekly by 52.1%, and at least monthly by 77.4%, of respondents. The effectiveness of feedback provision would seem to have been acknowledged by the majority of teachers. It was unclear why 11.8% of teachers would report never giving feedback when assessing writing but for some it might have related to the nature of their subject.

Product and process goals were reportedly used at least weekly by around a third and at least monthly by around two-thirds of respondents. However, although these came out as practices used relatively more often than others, the numbers of respondents reportedly never using them were still 24.0% and 19.8% respectively; considerable numbers were not using them.

One of the least frequently used practices was the teaching of self-regulation, something defined as 'processes that activate and sustain cognitions, behaviours and affects, and that are orientated toward goal attainment' (p.195, Schunk and Zimmerman, 1997). The modal descriptive classification was "never", with 29.1% selecting that category. Since a fifth or more of teachers did not use goals it was not surprising that fewer still employed strategies to work towards those goals. It was, nevertheless, reportedly used

at least monthly by 51.2% of respondents (see table 6.1, p.209). The degree of self-regulation that was taught by those reporting they did so was uncertain.

v) Other activities

The provision of writing time where writing was the main focus was reportedly used weekly by 40.1% of respondents and over three-quarters provided it at least once a month. This gave no indication of how long the time for writing was. Extra writing time of at least 15 minutes *extra per day* in grades 2-6 that has been shown to improve writing quality (Graham et al., 2012) which would logically mean daily provision, something which was provided by just 4.2% of respondents. More opportunities for writing, particularly at elementary level, might usefully be considered as a way to improve writing quality. Comments were made by some elementary and high school teachers about the challenges of finding time for writing (see table 5.9, p.197) and this would warrant further investigation.

Fourteen teachers reported teaching only aspects of writing related to their subject/s and one noted, "we do not teach writing" (see table 5.9, p.197). By contrast, the Scottish Government states: "…literacy is the responsibility of all staff." (p.22, Learning and Teaching Scotland, 2012). It would have been interesting to ask how much teachers saw the development of students' writing skills as their responsibility.

6.2.2.2 Teacher Beliefs

i) Importance of writing

When asked to rate the statement: "Writing is an essential skill for students" on a scale of 0 (strongly disagree) to 10 (strongly agree) 83.0% selected 10 and a response of 6 or more was given by 98.6% of respondents (see figure 5.49 p.186, table 6.5 p.214). This demonstrated that writing was valued by the staff who responded to the survey. It was possible that those who did not complete the survey did not value writing as highly, although lower response rates did not necessarily mean that the findings were not representative (Holbrook et al., 2008).

ii) Students' writing skills

Respondents rated the statement, "My students have the writing skills they need to do the work in my class" on the 11 point scale described above. Most elementary teachers agreed to some extent (86.2%); giving a modal rating of 8 (see table 6.5, p.214). Around one in twenty disagreed (5.2%). Three elementary teachers commented on high writing standards and two on inadequate writing standards (see table 5.9, page). Fewer high school teachers believed students had the writing skills they needed. The modal rating of 6 still indicated a degree of agreement and 60.5% agreed to some extent with the statement. However, over one in five (22.9%) of high school teachers disagreed with the statement to some extent and ten were moved to comment on inadequate writing standards. Three made comments placing the blame on elementary schools: one noted that students were "failing long before they arrive at secondary". This would be in contrast to the views of the majority of elementary teachers. Moreover, one high school teacher comment implied that the responsibility lay with the lower grades of high school: "Pupils get to *upper* secondary and do not have the tools to redraft their work; this causes frustration and makes it very difficult for them to reflect on and edit their work" (italics added).

A comparison with The Scottish Survey of Literacy and Numeracy (SSLN) 2014 (Scottish Government, 2015) can be made with the teacher writing survey although they employed different ways of measuring standards. The SSLN assessed samples of pupils and found the numbers reaching the appropriate standard were on average lower in high schools than in elementary schools (P4 (age 8-9); 64%, P7 (age 11-12) 68%;S2 (age 13-14) 55%). This trend was also seen in the SSLN 2012 data (Scottish Government, 2015). Differences did not seem as marked as in the teacher writing survey but the high school teacher's comment suggested that more students experienced difficulties in upper high school, and these were not included in the SSLN but their teachers were included in the teacher writing survey. The SSLN results taken with the current study suggest that some students might be failing to progress with their writing when at high school relative to their performance at elementary school. This may relate to the increasing demand of the tasks. Revision is associated with writing quality (Fidalgo et al., 2008; Zhang, 2001) yet was one of the least frequently reportedly utilised steps of process writing (see table 6.2, p.211). Interpretation of the teacher writing survey in this area

presupposed that all the teachers had reasonably accurate estimations of the writing standards of the students they taught.

iii) Adequacy of preparation to teach writing

The elementary teacher respondents' modal rating of the adequacy of their teacher training course to prepare them to teach writing was five on the 11 point scale described above (see table 6.5, p.214) indicating a degree of ambivalence towards their training. A little under half agreed to some extent that it prepared them (49.4%) while a sizeable minority (31.7%) disagreed to some extent. It was not clear what percentage of elementary respondents were general elementary teachers or specialists but it would seem unlikely that those with specialisms less related to writing would be more likely to respond; this certainly was not the case for high school teachers. These findings might relate more to how teachers were trained in the past than at present, given the numbers of teachers with more than four years' experience (see figure 5.1, p.139) but still reflected an important issue. These inadequacies were addressed to some extent through training elementary teachers received in-service, resulting in a bi-modal distribution (5 and 8 on the 11 point scale, see table 6.5, p.214). The majority of elementary teachers agreed to some extent that In-Service training had prepared them adequately (61.4%) although around a fifth believed that too was inadequate to some extent (21.3%). The value of the in-service training was recognised by the three who commented that they wanted it to continue or be extended and these ratings would support that view.

High school teacher respondents reported feeling less prepared than their elementary teacher counterparts. The modal rating for the adequacy of their teacher training to prepare them to teach writing was 0 (strongly disagree) with more than half disagreeing to some extent (51.8%, see table 6.5, p.214). Acknowledging the different training accorded to different subjects, those with English contained within their degrees were analysed separately. The modal rating was higher at 5 (on the scale 0= strongly disagree to 10 strongly agree) but 32.0% still reported being not adequately prepared to teach writing to some extent. High school teachers without English content in their degree had a modal rating of 0, with 58.8% reporting that their course had to some extent not prepared them.

A marked contrast was seen with views on the adequacy of the In-Service training between high school teachers with and without English in their degrees. The majority of teachers with English in their degrees (N=29) taught English (N=28). The modal rating was 8, with most (57.6%) agreeing to some extent that In-Service training adequately prepared them to teach writing (see table 6.5, p.214). High school teachers without English in their degrees gave a modal rating of 0, with most (60.8%) reporting that to some extent In-Service had not prepared them. This suggests that most high school teachers, without English in their degrees, did not feel adequately prepared to teach writing in this Local Authority. In-Service at high school level in this Local Authority was largely delivered by subject areas, for example, to English teachers. The high school teachers here were referring to the *different* In-Service training they were being provided with rather than rating the same training differently. Overall, half of high school teachers (50.0%) reported that their In-Service had not prepared them to teach writing to some extent (modal rating=0). Those with English in their degrees had very similar results to those of the elementary teachers, who would have had literacy within their training at college which non-English specialists at high school may not have had. It would seem this was also true for their subsequent In-Service training, as more elementary teachers and high school teachers with English in their degrees felt adequately prepared to some extent by their In-Service than by their teacher training. By contrast, slightly fewer high school teachers without English in their degrees felt prepared by the In-Service they had received than their training course, which only 29.1% had felt to some extent had adequately prepared them.

Kiuhara et al. (2009) in their national survey of high school teachers in the United States also found that many teachers felt inadequately prepared by their teacher training at college and although more felt prepared by In-Service, including non-language arts specialists unlike in this study, considerable numbers still did not feel prepared subsequently. The issue around teacher training is likely to be important in all Local Authorities in Scotland, assuming that the teachers sampled attended a range of institutions. The In-Service provided in this Local Authority benefited elementary and high school teachers with English in their degrees but not those high school teachers without English in their degrees and although helpful, still left some teachers feeling inadequately prepared. The perceived utility of In-Service training that is provided in other Local Authorities was not known, although given the national standards of writing (Scottish Government, 2015) it is likely to be similar in most places. A limitation of the

study was that the high school teacher sample was overrepresented in terms of English teachers - who in the main felt adequately prepared by their training course and In-Service training- and underrepresented in terms of Home Economics and Physical Education teachers. However, by examining the teachers in this way it would seem probable that if more teachers of practical subjects had responded the overall percentage who felt that their In-Service had not prepared them would be higher still. This ought to concern both the Local Authority and the Scottish Government which stated that all teachers were teachers of literacy (Learning and Teaching Scotland, 2012).

iv) Efficacy and enjoyment of teaching writing

Most elementary teachers agreed to some extent with the statement that they were effective at teaching writing (91.4%; the modal rating was 8 on the 11 point scale described above) and none (0%) disagreed to some extent with the statement (see table 6.5, p.214). This was a positive finding, although the nature of a survey means this is a measure of the teachers' reported perceptions. The modal rating was not 10 but nevertheless a rating of seven or higher was given by 82.9%. Most elementary teacher respondents also reported enjoying teaching writing to some extent (90.4%). The ratings were higher than those for the adequacy of their teacher training and In-Service training; perhaps their efficacy was affected by informal learning from colleagues or a prior interest in the area or perhaps their enjoyment led to the efficacy in some way. It is conceivable that the two areas were mutually dependent.

High school teachers respondents had the same modal rating (8) on the 11 point scale for the statement about efficacy as the elementary teachers. However, a lower percentage agreed to some extent they were effective teachers of writing (63.2% c.f. 91.4%) and whereas no elementary teachers disagreed with the statement that they were effective teachers of writing, 22.6% of high school teachers did (see table 6.5, p.214). Interestingly, when the high school teachers were again analysed on the basis of whether or not they had English in their degree a difference was evident: all those with English in their degrees agreed to some extent that they were effective, with 92.3% giving a rating of eight or more, but less than half of teachers without English in their degree agreed to some extent that they were effective (48.1%) and some (31.2%) even disagreed with the statement to some extent, i.e. implying that they thought they were ineffective at teaching writing to some degree. A similar pattern was seen for

enjoyment of teaching writing, with very similar percentages (see table 6.5, p.214) and again, all of the high school teachers with English in their degrees agreeing to some extent with the statement and none disagreeing. So, for high school teachers it would appear that there are marked differences between those who have English in their degree, and in the main, teach English, and those who do not; the latter believing they were less effective and not enjoying teaching writing as much. This group also felt less prepared to teach writing both by their teacher training course and their In-Service training. It would appear that writing has not been viewed as a priority in some subjects and this has had a serious impact on those teachers' enjoyment of teaching writing and perceived efficacy. It was not perhaps surprising to see high school teachers' perceptions of students' writing skills as lower than those of the elementary teacher respondents given these reported difficulties. In response perhaps to feelings of disempowerment some teachers felt moved to project these difficulties onto others: four high school teachers commented that this was not the responsibility of high schools (see table 5.9, p.197) with one going so far as to state, "If the 'cake' is not baked in Primary, Secondary have nothing to put the icing on". It would seem that in addition to issues around training for non-English degree teachers there is a need to remind some teachers of their responsibilities in this area; appropriate training could do this while empowering them.

v) Views on the use of it

Considerable numbers of both elementary and high school teachers disagreed to some extent with the statement about the adequacy of IT access available to support writing (40.3%, 41.5% respectively) (see table 6.5, p.214). Most teachers opined that they would use more IT to support writing if more/more up-to-date devices, with the notable exception of smartphones/mobiles (30.8%), and better internet speed/bandwidth were available. Smartphones might have been less popular with teachers given their potential for being a focus for behavioural problems, such as bullying and being off-task due to texting and so on. Nearly half of high school teachers and 65.4% of elementary teachers saw their lack of training in IT as a barrier to increasing access for students.

vi) Views on the importance of different aspects of writing

Ideas, organisation, sentence fluency and spelling, punctuation and grammar were all viewed as important when assessing writing. It would have been interesting to have had

the latter category separated into its component parts but the survey already contained many questions. Nonetheless, it was clear that those mechanistic aspects, apart from handwriting, were seen as just as important as ideas and organisation. McCarthey et al. (2013) found that teachers in high socio-economic status (SES) schools teachers focused on more sophisticated aspects of writing alongside organisation, such as fostering voice, than teachers in low SES schools who focussed more on grammar, mechanics and sentence structure. The SES of the schools of the respondents in this study was not known so unfortunately a comparison in that way cannot be made. However, it has been demonstrated that less sophisticated aspects of writing were more valued within this Local Authority than might be seen in schools with higher aspirations. Furthermore, perhaps if ideas, organisation and voice had been seen as more important than mechanics then the emphasis in practice might have been more on revision and less on editing (see table 6.2, p.211).

6.2.3 Contribution of this study to the literature

Little research has been done into mainstream teacher views of writing; a literature search for the years 2003-2013 of the Educational Research Information Center (ERIC), Social Sciences Citation Index, Scopus and Virtual Library databases and the Journal of Writing Research resulted in eight relevant studies. This survey of teachers' beliefs and practices in relation to writing was the first of its kind in Scotland and, indeed, the United Kingdom. As such, it formed a useful contribution to research in the area, especially by sampling a different population.

It included questions on areas of practice that had been omitted previously from teacher surveys, such as: visualisation/imagery instruction; structured co-operative learning approaches; process goals. Teachers were also asked in a survey for the first time about use of the separate steps of process writing, namely pre-writing/planning, drafting, revising, editing and publishing. Excepting publishing, practices of collaboration between students and use of IT were also investigated for these steps. Little reference had been made to collaborative practices in the research hitherto: Graham et al. (2008) found 5% of grade 1-3 teachers used small groups for handwriting and Simmerman et al. (2012) had found collaborative writing to be middle ranking in value and usage but this did not quantify the frequency of usage in more concrete terms or what this might involve. This study revealed that the most frequently used collaborative approach in this

region was student evaluation of each other's work: used at least monthly by 76.9% of respondents (see table 6.1, p.209). This was followed by collaboration on editing/proofreading (60.9%) then collaborative planning, revising or drafting (47.65% - 36.2%). This finer detail enabled more precise recommendations to be made.

Structured co-operative learning approaches, such as Jigsaw, had a modal descriptive classification of "several times a year" although many used it more often: 45% of respondents reported using it at least monthly (see table 6.1, p.209). Nevertheless, they were not used by 18.4% of teachers; some of these may have been unaware of the potential benefits and/or not been trained in how to do it.

This study also went further in investigating the use of IT than previous research: Simmerman et al.'s survey had teachers rate usage and value of "Technology based genres" and "Technology based reference tools" (p.306, 2012) but this was not coterminous with the use of IT to support writing. Teachers had valued IT more than they used it in that study, but reasons for this were difficult to conclude given the lack of further information. The current study specifically asked if respondents would use IT more often under a range of conditions including: more hardware- this included specific types such as smartphones-, more up-to-date equipment, better internet speed/bandwidth and more training. In addition, it was the first study to ask if teachers allowed students to use their own IT devices in class, given their increasing popularity. The study's originality was further increased by being the first to simply ask teachers how effective they were at teaching writing.

Results from the survey showed that no evidence-based writing practice was used by all the teachers at least several times a year, although having students evaluate each-others' work came close (98.1%, see table 6.1, p.209) and on average, excluding grammar instruction, 79.4% of teachers used the practices at least several times per year. The practice used by most teachers weekly were grammar instruction lessons, despite their negative impact (Graham et al., 2007) and this was important information for the Local Authority to know. Around a half of respondents reported the weekly use of provision of feedback when assessing writing and half or more used a range of other evidence based practices, including writing strategy instruction, at least monthly. These may not have been optimal frequencies and it also meant that nearly a half were not using them at least once a month. Moreover, from a fifth to over a third of teachers reported *never*

using: process goals; product goals; the teaching of self-regulation; students helping each other plan, draft and revise writing; provision of IT for drafting, revising and editing/proofreading of text; provision of individual laptops/tablets with internet access when writing; visualisation/imagery instruction. These are important strategies which if used more widely could have a positive impact on writing standards in the region. Peterson et al. (2007) in their small study of grade 4 to 8 teachers in Canada, eight years prior to this survey, had found similar results: 22.2% reported little or no use of IT to support writing. Reasons for some teachers in the current study not using IT could be explained in part by the numbers who reported they would use IT more often if they had more/better equipment with better internet access and appropriate training (see table 6.5, p.214). The lack of hardware could be addressed in part by allowing students to use their own devices; the antipathy felt by many teachers towards Smartphones should not preclude their use.

The examination of the separate steps of process writing for the first time in a survey revealed that for these respondents pre-writing/planning and editing/proofreading were used more than drafting, revising and publishing (see table 6.2, p.211) despite revision being significantly associated with writing quality (Fidalgo et al., 2008; Zhang, 2001). Interestingly, the teachers valued organisation, which could be improved through revision (see table 6.3, p.211).

The perceived adequacy of teacher training courses as preparation to teach writing was brought into question by the survey results, as had been done in the United States by Kiuhara et al.'s survey of high school teachers (2009). Under a half of elementary teachers and high school teachers with English in their degrees agreed to some extent they had been adequately prepared by their course. This has implications for teacher training institutions. More felt adequately prepared by their In-Service training but 21.3% and 23.0% respectively still believed to some extent they had not been adequately prepared (see table 6.5, p.214). The situation for high school teachers without English in their degrees was worse; the majority felt to some extent their teacher training had not prepared them to teach writing. Furthermore, In-Service training had not led to them feeling more prepared, unlike for their elementary and high school teacher colleagues. In-Service training was provided every year in the region and so would have been more contemporary than the training courses of many of the respondents.

This study was the first to ask teachers how effective they thought they were at teaching writing. Most elementary teachers (91.4%) believed to some extent they were effective while all the high school teachers with English degrees did so. However, almost a third of high school teachers without English in their degrees reported that to some extent they were not effective at teaching writing. These were the group who had felt least prepared by their teacher training and the In-Service they had received. The percentages who felt they were effective to some extent very closely matched those who enjoyed teaching writing to some extent (see table 6.5, p.214). It would be interesting to explore whether a measure of teacher effectiveness in teaching writing might be elicited simply by asking how much they enjoy teaching it. To conclude, the teacher writing survey has both added to the body of research in this area and provided useful information prior to the intervention phase of the overall study.

6.2.4 Implications for Practice, Policy and Future Research

6.2.4.1 Implications for Teacher Practice

Grammar instruction lessons were reportedly used at least weekly by 54.5% of respondents. Teachers need to stop providing traditional grammar instruction lessons to all but bilingual students since it has been shown to be ineffective at improving writing quality (Graham et al., 2007; Graham et al., 2012). This will have the added benefit of making more time available for writing, something which was commented upon by six teachers (see table 5.9, p.197). The teaching of grammar in context has been shown to help struggling writers (Rogers et al., 2008) and should continue as appropriate.

A number of writing practices have been shown to have large impacts on writing quality and their use should be widespread. All teachers should provide opportunities, perhaps weekly, for children to work collaboratively during the writing process, especially for revision as it has a large impact, which more than a quarter of respondents never let their students do (Graham et al., 2012; Graham et al., 2007; Boscolo et al., 2004). Students would also benefit from adequate strategy instruction (Graham et al., 2007; Graham et al., 2012; Rogers et al., 2008). Self-regulation has been demonstrated to have a large effect with elementary and lower high school students, especially when combined with strategy instruction as Self-Regulated Strategy Development (SRSD) and similar approaches such as CSRI (Harris, Lane, Graham et al., 2012; Schunk et al.,

1993; Schunk et al., 1991; Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008); it is likely to be effective with older students too but no studies on this were found in the literature. An important aspect of teaching self-regulation is the use of teacher modelling as it enables students to see an invisible process and guided and/or collaborative practice can support this new skill. Process and product goals have both been shown to have large effects, although the latter on productivity rather than quality (Graham et al., 2012; Graham et al., 2007;Rogers et al., 2008). The addition of feedback to the use of process goals has been shown to result in the best outcomes (Schunk et al., 1991, 1993); in time this feedback becomes an internal process and students are able to perform independently. The majority of teachers in the current study provided adult feedback when assessing writing but this could be done more frequently and those who do not do it at all ought to change their practice as it has been shown to have a large impact, particularly at elementary school (Graham et al., 2012). The amount of feedback students receive could further be increased through building on the amount of peer evaluation delivered weekly; something 30.5% of teachers reported facilitating (see table 6. 1, p.209). Teachers could also provide graphic organisers and mnemonics to help students remember process goals and elements of self-regulation.

Elementary students and at least lower high school students would benefit from being taught the skills of summarisation (Graham et al., 2007). Similarly, upper elementary and lower high school students, and perhaps above, would benefit from the more frequent use of structured, cooperative learning approaches (Sahin, 2011; Durukan, 2011; Alfassi, 2009). More elementary teachers should use visualisation/imagery instruction, as over a third never employ it (Graham et al., 2012) while creativity instruction should be used up to grade 6 (Graham et al., 2012). The value of opportunities for daily extended writing at elementary school should also not be overlooked (Graham et al., 2012).

The use of IT has been shown to lead to medium effects upon writing quality at elementary and high school level (Graham et al., 2007; Graham et al., 2012) and a moderate impact upon productivity (Rogers et al., 2008). The teachers recognised that students would benefit from more/better quality IT provision (see table 6.4, p.212) and provided the Local Authority addressed the issues around resourcing, training and use of student personal devices then the onus would be on teachers to actually put this increased use of IT into practice. Most teachers (62.1%) were opposed to the use of

student smartphones to some extent (see table 6.4, p.212). However, it has been demonstrated that they can enhance motivation to write (Kanala et. al., 2013) and have great potential to aid learning so teachers ought to reconsider their position on this.

Other results from the survey suggest that teachers ought to put more of an emphasis on revision in the writing process (see table 6.2, p.211) and the importance of voice when teaching and assessing writing (see table 6.3, p.211). Sentence combining, a moderately effective intervention at elementary and high school level, (E=0.50; Graham et al., 2007, Rogers et al., 2008) was not included in the survey but would be something worth employing at least at grades 4-9.

6.2.4.2 Implications for the Local Authority

The perceived adequacy of student writing skills at high school is a cause for concern; 22.9% reported that to some extent their students did not have the necessary skills to do the work in their classes (see table 6.5, p.214). The situation at elementary level was better but some teachers still believed their students' writing skills were not adequate (5.2%). The more widespread use of evidence-based writing teaching practices at both elementary and high school level ought to lead to an improvement. To facilitate this, the Local Authority will need to provide appropriate training in the practices described above both to elementary and high school teachers as appropriate. Furthermore, the ineffectiveness of traditional grammar instruction lessons, except for bilingual learners, should be made clear.

High school teachers without English in their degrees deserve special attention, given that most (60.8%) reported that the In-Service on teaching writing they had received had not been adequate preparation and that nearly a third felt to some extent they were not effective at teaching writing (31.2%, see table 6.5, p.214). This was in contrast to those high school teachers with English in their degrees, the majority of whom taught English and therefore would have received some In-Service tailored to their specialism. Literacy is not just the responsibility of English teachers at high school (Learning and Teaching Scotland, 2012), something which some high school teachers may need reminding of, and the In-Service provided to staff needs to reflect that. Many more teachers with English in their degrees reported that the In-Service that was provided to them was adequate (modal rating=8) and this was a higher rating than they gave to their

teacher training course (modal rating = 5, see table 6.5, p.214). This would suggest that some elements of the In-Service provided to high school English teachers could profitably be made available to non-English specialists; delivering the training to both groups at the same time could enhance learning and give the message that this was a task which everyone could, and should, contribute towards. Such events could also provide opportunities for moderation of standards of writing across the elementary and high school, and English and Non-English subject, boundaries.

A few teachers commented that there was not enough time available for writing although most teachers agreed to some extent that it was an essential skill. The Local Authority should make it plain to teachers that writing is valued and time should be made available to develop it. Teachers may benefit from support in considering ways in which writing could be combined with other targets, particularly at high school level.

Large numbers of teachers, at both elementary (40.3%) and high school (41.5%) believed that students did not have sufficient IT access to support their writing activities (see table 6.4, p.212). The majority reported that barriers to this access included: insufficient numbers of devices; insufficiently up-to-date devices; insufficient internet speed and/or bandwidth. The need for training for teachers on how to use IT to support writing was the view of most elementary and nearly half of high school teachers (see table 6.4, p.212). The Local Authority should investigate and reduce these barriers. The number of devices available to students would be increased if the Local Authority provided unambiguous approval and clear guidelines on the safe student use of personal hardware, in line with Scottish Government guidance (Scottish Government, 2015). Despite the misgivings of many teachers, this should also include the use of Smartphones; a "Bring Your Own Device" approach has been described as the next revolution in school technology (Morrison, 2014). This would still mean that more devices which can be typed upon might be required.

The Local Authority should investigate further the claims by two elementary teachers that the assessment requirements they place on schools are impacting upon what is taught in some negative ways (see table 5.9, p.197). A concern was raised that assessment using the online programme called InCAS (Interactive Computerised Assessment System) at elementary school, which assesses literacy apart from writing, was pressurising teachers into focusing away from writing. If this proves to be the case

consideration should be given into addressing the issue. Another teacher reported that the way writing was being assessed at their school meant that opportunities for children to write at length and revise their work were reduced. In this instance, the teacher could have photocopied the first draft as evidence before allowing the students to revise/edit their work. This final copy could also be kept as evidence because revision is a normal part of writing.

6.2.4.3 Implications for other Local Authorities in Scotland

Scottish national data on writing standards of students showed that the numbers reaching the appropriate standard were lower in high schools than elementary schools and that anything from a third to almost a half were not reaching the required standards (P4 (age 8-9); 64%, P7 (age 11-12) 68%;S2 (age 13-14) 55%) (Scottish Government, 2015). This would suggest that other Local Authorities need to consider whether their teachers are employing evidence-based writing teaching practices and provide training accordingly. They might wish to investigate first how aware staff are of the approaches before providing in-depth training. Nevertheless, presumably many of their staff attended the same teacher training institutions as the teachers in the current study and therefore some elementary and perhaps most high school teachers, excepting those who teach English, will have felt inadequately prepared to teach writing and so would require additional training. In-Service has an important role in addressing this deficit but in the current study not everyone found it helpful. The group who reported having benefited from In-Service the least were the high school teachers who did not have English in their degrees; of whom close to a third reported not being effective teachers of writing to some extent (see table 6.5, p.214). It is not known what In-Service has been provided in other Local Authorities but this would suggest that special consideration needs to be given to meeting the training needs of this subgroup.

Inadequate provision of resources and training to ensure sufficient IT access for students to support their writing might be an issue in other Local Authorities, given the budgetary restraints of the current economic climate. Some may already be using Bring Your Own Device (BYOD) policies to help reduce the shortfall in availability but those that aren't could usefully explore this way of making more devices accessible in schools. An important benefit of IT availability is the ability to revise and edit texts

more easily but this may necessitate investment in devices with this capability in addition to those which would be made available through BYOD. The adequacy of internet access and bandwidth in schools should also be investigated.

6.2.4.4 Implications for the Scottish Government

The results of the current study found that around 30% of elementary teachers and high school teachers with English in their degrees in this Local Authority believed their teacher training course did not adequately prepare them to teach writing (see table 6.5, p.214). The results for high school teachers without English in their degrees were worse: 58.8% felt they were not adequately prepared. Given the lengths of service of the teachers and therefore the times at which they were trained this may not reflect the current content of teacher training courses, although it may do. Whether or not the current teacher training courses, particularly for high school non-English specialists, are adequate preparation to teach writing ought to be investigated. A survey of current Initial Teacher Education (ITE) staff and probationers could provide useful information in this regard. The results of this survey should be shared with ITE staff.

The Scottish Government could draw the attention of Local Authorities and teachers to evidence-based writing practices, described above, which could usefully be employed in Scottish elementary and high schools in order to help raise writing standards. Some of the practices may be being used several times a year on average, such as collaborative revision in the current study, but would benefit from more frequent application and utilisation by those who never do so at present. The Scottish Government could also provide assistance to Local Authorities in developing training for staff, particularly high school non-English specialists, on improving the teaching of writing. The Curriculum for Excellence Implementation Plan 2015-16 (Education Scotland, 2015) outlined plans for a national conference on literacy across learning (meaning teaching literacy in subjects other than English) along with a web resource and In-Service training resources on literacy and these could be useful vehicles for delivering information about best practice for teaching writing to mainstream students. A website purely devoted to raising writing standards would be useful adjunct.

IT is, as the European Union High Level Group of Experts on Literacy noted, '… changing the nature, frequency and importance of writing' (p.23, European

Commission, 2012). The wide range of digital writing skills required for accessing social networks, texting, participating in the political process and succeeding in the workplace mean that writing, both digital and traditional, is becoming ever more essential. Moreover, the provision of IT for word processing purposes led to medium impacts upon writing quality at elementary and high school level (Graham et al., 2007; Graham et al., 2012). However, in the current study around 40% of elementary and high school teachers believed that students did not have sufficient IT access to support their writing (see table 6.4, p.212). The majority reported that if IT provision were better they would provide their students with more access to it. Given the benefits of IT, both for writing and as a learning tool, the Scottish Government should consider supporting Local Authorities with the capital investment required to improve access. The sums required would be reduced were more Local Authorities to allow students to use their own devices in school, as the Scottish Government has already recommended (2013a) but which was not followed through at least by the Local Authority in the current study. The Scottish Government could attempt to ascertain how many Local Authorities have complied with the guidance and if not, what the barriers might have been so as to develop ways of overcoming them. The guidance from 2013 would benefit from revision to emphasise the advantages and to include examples of Local Authorities successfully putting the guidance into practice.

The Scottish Government could also usefully consider how it might contribute to funding more research into approaches to improve the writing quality produced by mainstream students, not least because so many students fail to reach their required standards in writing (2015).

6.2.4.5 Implications for other National Governments

The degree to which the conclusions above apply in other countries will depend to some extent on the language, culture and educational system in use there. Furthermore, the literature review excluded studies specifically about languages other than English and articles not written in English. However, some studies were of students who did not write in English, including for example Fidalgo et al. (2008) and Sahin (2011), and these provided important information on the effectiveness of some mainstream approaches. Therefore, much of what was found here is likely to apply elsewhere to

some extent but more so in countries where English is a national language, such as the rest of the UK, the United States and Australia. Governments could ensure that effective mainstream writing interventions were being widely used. They might investigate how effective their teacher training courses were estimated to be in preparing student teachers to teach writing; given the results in Scotland and in the United States (Kiuhara, 2009) they may well not be very effective, particularly for high school non-literacy specialists. They might therefore want to consider ensuring that appropriate In-Service is made available. Other national governments should also assess whether or not their students have sufficient IT access to support their writing and other learning and whether a BYOD approach might be helpful with this. Some countries, such as the United States, are further along this path than Scotland (Morrison, 2014). They could also assist the process of inquiry into this area by funding more research into writing.

6.2.4.6 Future Research

Replication locally and in different parts of Scotland, such as more urban areas and areas of higher or lesser social deprivation, would make any findings more generalizable across the country as a whole. Perhaps ways of measuring the socio-economic status of the schools in which the teachers taught could be devised in a way that would not compromise anonymity, as this would be a very interesting variable to explore. Teachers could also be asked how often they would let students use a range of personal devices if unambiguous Local Authority approval and clear guidelines were put in place. The instrument used, a survey, was limited in that it relied on the faithful reporting of teachers' perceptions. The relationship between teachers' estimations of effectiveness and other measures of their effectiveness at teaching writing, such as observation, could be usefully explored. Focus groups could be used to explore some of the issues raised further, such as the degree of responsibility high school teachers had for improving writing standards and the extent to which different practices, like self-regulation or creativity instruction, were taught. The meanings teachers gave to the different practices could also be examined. Although the literature can refer to interventions raising writing quality the question might be more accurately about improving the skills of teachers to teach writing. Furthermore, the maintenance of

student gains is rightly explored in studies of interventions but how far do the teachers continue to teach in the more effective manner once the researchers have gone?

In terms of the current study, the second, third and fourth research questions are:
Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 9 years 6 months to 10 years 6 months at the start of the school year in August in Primary 6 (P6; broadly equivalent to 5th Grade) in two elementary schools in Southern Scotland?

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

The survey results had a direct influence on the third and fourth questions. Large numbers of high school teachers without English in their degrees (60.8%) reported that the In-Service on teaching writing they had received had not been adequate and 31.2 percent felt to some extent they were not effective at teaching writing (see table 6.5, p.214). This was instrumental in the intervention also being trialled at high school and non-English specialists being included. The English specialists were a means of comparison and would enable evidence-based decisions to be made about whom to focus In Service training upon.

The survey identified areas of teacher writing practice which can lead to large impacts on writing quality which are under-utilised, such as self-regulation and strategy instruction, summarisation, the use of process and product goals, collaborative revision and the use of IT. IT was not included in the intervention because, as suspected, many teachers felt that there was insufficient available to support students' writing (see table 6.4, p.212) and summarisation because it only had evidence at elementary level (Chang et al., 2002) and inclusion would have made the programme very complicated.

Chapter 7: Elementary School Intervention Methodology

This chapter first describes the research design, ethical considerations and the sample for the elementary school intervention. Next, the nature of the interventions, the procedure and the data analysis are given.

7.1 Research Question

The research question which this study investigated was:
Does the implementation of evidence-based teaching of writing practices improve writing quality for students aged on average at the start of the academic year 10 years 11 months (Primary 6 (P6; broadly equivalent to 5th Grade)) in two elementary schools in Southern Scotland?

7.2 Research Design

This study was quasi-experimental and used both quantitative and qualitative methods (Cohen, Manion & Morrison, 2011). It was felt that this approach would best answer the research questions, as Grix noted, "Methods themselves should be seen as free from ontological and epistemological assumptions…" (p.180, 2002). A constructivist ontology was used, i.e. the view was taken that social phenomena and categories are produced through social interaction rather than having an independent existence (Grix, 2002). This was combined with an interpretivist epistemology, described by Cresswell as "…a form of interpretive inquiry in which researchers make an interpretation of what they see, hear, and understand. Their interpretations cannot be separated from their own backgrounds, history, contexts, and prior understandings" (p.209, 2009). Therefore in order to gain a richer picture of the phenomena research questions were approached from more than one perspective. The intention was to be able to triangulate the results, while acknowledging that the results would all be somewhat subjective. Objectivity was not claimed but triangulated subjectivity. The findings would therefore still be generalizable to some extent.

The research was undertaken in two primary schools in southern Scotland in P6 (broadly 6th grade). In order to maintain anonymity these were referred to as Eastfield Elementary School and Westfield Elementary School. Each school had an intervention

class and a control class (see table 7.1). The evidence-based intervention which was the subject of this study was called Write Away in order to make discussion around it simpler. The control classes were both already following a Big Writing programme (Wilson, 2012). This was an on-going whole school approach rather than a time-limited intervention.

Table 7:1 Participant Classes' Writing Programmes

Condition	Writing Programme
Eastfield Intervention	Write Away
Eastfield Control	Big Writing
Westfield Intervention	Write Away
Westfield Control	Big Writing

The intervention content was the same for both schools. The teachers in the control condition delivered their usual curriculum, that is, they continued to deliver Big Writing. The writing quality of written tasks completed under exam conditions before and after the intervention period of six weeks was assessed using a rubric (see appendix 7:1). Word-counts of the written tasks and pupils' plans were made. Anonymous questionnaires (see appendices 7.2 and 7.3) were administered to all the pupils before and after the intervention. The teachers of the intervention completed questionnaires before the intervention began (see appendix 7.4). At the end of the intervention period all teachers in the study completed questionnaires, which included the opportunity to comment (see appendix 7.5). A voluntary focus group of intervention teachers was held. Teachers' logs of when they delivered different parts of the intervention were kept and each class was observed using an observation schedule (see appendix 7.6) for one lesson during the intervention period.

7.3 Ethical Considerations

Pupils were given the opportunity to opt-out of the intervention activities if they did not wish to participate and alternative activities closely related to the tasks were made available for this eventuality. There was a reluctance of nearly half of the pupils in Westfield School to initially participate in the study. The Head teacher spoke with the class and assured them it would not involve additional work. Informed, written consent was secured from the pupils for the inclusion of their data in the study and possible publication. Parents/carers were made aware of the project by a covering letter and a

copy of the Primary Pupil Information Sheet. The lead researchers contact details were shared with them so they could inquire further if required.

All of the P6 teachers wished to participate in the study. The teachers were given an information sheet and written consent obtained for participation and for use of their data, including possible publication.

There were a number of issues to be considered in terms of ethics. The most obvious challenge would be that pupils who were in the control classes did not receive the intervention. However, they continued to receive the curriculum they would do were the research not to be taking place, and in order to assess the efficacy of the interventions this was a necessary component. Which pupils received the intervention and which were in the control groups was dependent upon which teachers were delivering the intervention. In order to address these considerations, training was made available in the intervention following the research to all teachers who wished to receive it. It was made clear that there was no reason why pupils in control classes could not follow the intervention in the next academic year.

A further ethical consideration was whether or not to request informed, written consent from the parents/carers of the participants. On balance it was decided not to seek consent from the parents/carers for a number of reasons. Firstly, informed consent was being supplied by the schools on behalf of the parents (in loco parentis) and the schools were happy to proceed with the research studies without seeking written parental consent. Secondly, the pupils supplied their own, informed, written consent for participation in the study. They were provided with an information sheet, the opportunity to discuss the study with their teachers and the contact details of the lead researcher should they seek further clarification. They were free not to participate and alternatives were made available for that eventuality. Thirdly, the teachers were supplying informed, written consent to participate in the study. They had a duty of care to their pupils and had not suggested that informed, written consent be sought from parents. Fourthly, the intervention was comprised of teaching techniques which are in common usage. Fifthly, the pupils were not being subject to interview or asked to answer questions which a teacher might not normally ask of pupils and the data was made anonymous. Sixthly, the parents were made aware of the study and given a copy of the Primary Pupil Information Sheet along with the lead researchers contact details so

they could inquire further if required. Finally, chasing up missing parental responses would have created extra workload for already busy teachers.

Ethical approval for the study was given by the University of Dundee School of Education, Social Work and Community Education Ethics Group.

7.4 Sample

Permission for the research project was given by the Head of Education in the Local Authority. Participation in the study was offered to the large elementary schools in the region which had two P6 pupil-only classes. The two Head Teachers responded positively. Which pupils received the intervention and which were in the control groups was dependent upon which teachers were delivering the intervention. The respective Head Teachers asked the P6 teachers who would most like to take the intervention class. In Eastfield Elementary School (pseudonym) the teacher with least experience expressed a preference that the other teacher took the intervention class. In Westfield Elementary School (pseudonym) one class had two teachers (see table 7:2). They felt for continuity it would be best for the class with one teacher to take the intervention.

Table 7:2 Participant Classes Numbers of Teachers

	Number of Elementary Teachers
Eastfield Intervention	1
Westfield Intervention	1
Eastfield Control	1
Westfield Control	2

During the intervention period the control classes followed the curriculum and used the teaching methods they would have used were the study not being done in this school. In both cases this was the Big Writing programme. The pupils knew that the study was being conducted, as their written, informed consent to participate had been sought and they had been provided with information about the study. Whether or not this had had an effect on the behaviour of the teachers' and pupils in control classes was unknown.

The Local Authority in Southern Scotland where this study took place is one of the largest in Scotland in terms of area but not of population size; having an overall population of 150,270 in 2013 (Scottish Government, 2013b). Eastfield Elementary

School was located in the centre of a town with a population of around 8,300 (D&G Online, 2016). In Scotland all children, up to and including P3, receive Free School Meals. The percentage of pupils entitled to Free School Meals in P4 to P7 at Eastfield Elementary was 11.8%. The total number of pupils on roll in the school was 390.

Westfield Elementary School was located in the centre of a town larger than "Eastfield" with a population of around 31,600 (D&G Online, 2016). The percentage of pupils entitled to Free School Meals in P4 to P7 at Westfield Elementary was 9.9%. The total number of pupils on roll in the school was 361.

The age and gender of the pupils in the intervention and control conditions at the start of the intervention were compared (see table 7:3). The average age was127 months, i.e. 10 years 7 months (range = 10 years 1 month to 11 years 4 months).

Table 7:3 Gender and Mean Age of Participant Pupils

Condition	Number of Pupils In The Classes	Number Of Pupils In The Study (Percentage Attrition)	Number Of Female Pupils (Male Pupils) In The Study	Mean Age in Months Of Participant Pupils
Eastfield Intervention	27	25 (7.41)	11 (14)	124.12
Eastfield Control	28	26 (7.14)	12 (14)	129.84
Westfield Intervention	26	20 (23.08)	11 (9)	128.25
Westfield Control	26	19 (26.92)	9 (10)	127.37
Totals	107	90 (15.89)	43 (47)	127.38

The numbers of male and female participant pupils were broadly the same. The mean ages of the pupils in each condition were generally around the same except for Eastfield intervention, whose students were markedly younger than the others, particularly Eastfield control. The school stated that this was coincidental and not the result of a policy.

Attrition rates varied notably between the two schools, with greater attrition at Westfield. Pupils were excluded from the study if they completed only one writing assessment, either the pre or post-test. All the elementary pupils had agreed to be part

of the study. Two children in the Eastfield control class were absent for both writing assessments.

7.5 Nature of the Intervention

The intervention was informed by the results of the survey and the literature review (see Chapters 3 and 6). Strategy instruction and self-regulation and peer revision were being under-utilised (see table 6.1, p.209) while IT was not included because many teachers felt that there was insufficient available to support students' writing (see table 6.4, p.212).

The intervention was called Write Away in order to make discussion around it simpler. The intervention comprised of five steps (see appendix 7.7) rather than individual lesson plans to enable the teachers to take into account the needs of their pupils and their timetables. Support materials were also supplied (see appendix 7.8). The first step began with pupils considering what extended writing they currently did in school and how they did it in order to activate their prior knowledge (Lassonde and Richards, in Graham et al., 2013; Fidalgo & Torrance, in press) and to increase motivation. This was followed by an introduction to the Write Away process and the giving of the process goal (Schunk et al., 1991, 1993) of improving their extended writing. How to evaluate writing using the mnemonic GRIST (Goals, reader, ideas, structure and tied together (transition words/phrases)) was directly taught next. Mnemonics have been shown to help pupils remember product goals (De la Paz, 1999; Fidalgo et al., 2008) and product goals have been shown to be effective at improving writing quality (Graham et al., 2007; Rogers et al., 2008). This mnemonic was based on Fidalgo, Torrance and Lopez-Campelo's Spanish language mnemonic "OAIUE" (Objective, Audience, Ideas, Unite (ideas), Scheme (Esquema)) (in press). Pupils were also supplied with some genre knowledge (Hoogeveen, 2012) about compare and contrast essays before comparing a good and a mediocre compare and contrast essay (Torrance, Fidalgo & Robledo, 2015) using GRIST; the study of good models aids writing quality (Corden, 2007; Knudson, 1989). A simple structure for use with compare and contrast essays was highlighted in the good model essay, as text structure instruction has been shown to improve writing quality (Graham et al., 2012; Fidalgo, Torrance, Rijlaarsdamm, van den Bergh & Lourdes Alvarez, 2015). Notes on the structure were provided to the pupils in order to provide a product goal (see appendix 7.8).

The second step began to describe the Write Away process of "Think Plan Draft Revise Edit". Each step in the process provides a goal to work towards. Plan, draft, revise, edit writing strategy instruction alongside self-regulation has been evidenced to raise writing quality and was an important part of the intervention (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). The Think stage was added in order to encourage pupils to take the time to recall the mnemonics, the writing process and to think of good ideas for their content. Some pupils alter their understanding of a topic little when writing- these profit most from a planning strategy while others learn as they write- these benefit most from a draft-revise strategy (Baaijen, Galbraith, & de Glopper, 2014). Therefore pupils were told that although expert writers tend to plan they do not need to do this at length, provided they spend enough time on revision. A real-life example of an author's text was provided to show the revisions. It is worth noting that Torrance et al. (2015) had found that six graders writing quality was improved just as much by having a product goal as when this was combined with process strategies, i.e. planning and revising strategies, but this had been in respect of a *short* assessment piece of writing: the process and product pupils had averaged around 29 minutes for the task. However, the pupils in the current study had been given much more time (90 minutes) to complete their assessments. Moreover, it was hoped that the planning and revision strategies would prove useful in the pupils' longer pieces of writing both at the time of this study in class and later in their education.

To plan, the pupils were taught to jot down ideas before completing a graphic organiser to ensure they used the correct structure (Harris, Lane, Graham, et al., 2012; Fidalgo & Torrance, in press) (see appendix 7.8). Pupils were also given the process goal of knowing how to write compare and contrast essays then they watched the process of planning modelled as a "think aloud" (p.40, Fidalgo, Torrance, Rijlaarsdam et al., 2015). Teacher modelling is also part of SRSD (Harris, Lane, Graham, et al., 2012). The teacher modelled self-regulation of emotions as well as regulation in terms of working towards goals. The pupils were then invited to discuss what they had noticed about the process, since reflection on modelling has been shown to be beneficial (Fidalgo, 2015). This was followed by the pupils planning their individual essays while receiving feedback from the teacher (Graham et al., 2012, Hattie, 2009). This planning included collaboration (Graham et al., 2007) at the stage of discussing possible content then explaining their finished individual graphic organisers to each other (personal

correspondence, S. De La Paz, 23rd November 2015, in relation to De La Paz, 2005). This was in contrast to CSRI, where students in pairs take turns to think aloud as they perform the task while the other student provides feedback (Torrance et al., 2007; Fidalgo & Torrance, in press). De La Paz (2005) reported using an SRSD approach and the students collaborated at the planning stage, although that alone. However, SRSD emphasises collaboration between the teacher and the student/s rather than the students with each other without a teacher present, other than to ensure they are using the strategies, although teachers are invited to encourage it (Harris, Lane, Graham, et al.,2012, associated online materials). This was recognised as an important difference between CSRI and SRSD (Torrance et al., 2007). The essays would be being shared in the class room and possibly the library in order to provide an authentic purpose (Purcell-Gates et al., 2007).

For the third step, the teacher modelled writing the first draft (Fidalgo & Torrance, in press; Torrance et al., 2007), paragraph by paragraph using the graphic organiser and notes on structure, while continuing to self-regulate. The teacher modelled a paragraph at a time then the pupils wrote theirs individually, having adult feedback as they did so (Graham et al., 2012, Hattie, 2009). The modelling was done paragraph by paragraph so that the features of the individual paragraphs would be more easily retained and to avoid confusion. Collaborative drafting was not used due to the lack of evidence for its efficacy when used without IT; personal correspondence with Torrance (M.Torrance, 16th November 2015) and De La Paz (S. De La Paz, 23rd November 2015) showed that references to collaborative writing did not actually refer to collaborative drafting in the sense of pupils working together on one joint draft. The draft was double spaced in order to make revision easier and to emphasise the fact that this was not the finished product. This was supported by the graphic organiser they had completed earlier and a checklist of important features to include.

Step four focused on revision, which has been shown to improve writing (Boscolo and Ascorti, 2004, in Graham et al., 2013, De La Paz, 1999, Graham et al., 2007, Rogers et al., 2008) and the understanding of topics being learnt (Baaijen et al., 2014). Again, this was modelled by the teacher. Revision at the text rather than word level (like spelling) leads to greater improved writing quality (Zhang, 2001) and so revision and editing were separated, with the less demanding editing (punctuation, grammar, spelling, font for IT) coming after the revision stage. This is in contrast to Torrance et al. (2007) and

Fidalgo et al. (2008) who included editing within revision and Fidalgo et al. (2014) and Fidalgo et al. (2015) who did not include revision at all. From the literature review (see Chapter 3) Brunstein et al.' s(2011) and Glazer et al.'s (2007) use of SRSD in Germany included revision, encompassing editing and revision, but there was no peer collaboration. Furthermore, unlike with Torrance et al. (2007) and Fidago et al (2008) neither think alouds nor self-regulation statements were used by the students as part of this collaboration. The mnemonic REA/D was provided (re-read, evaluate, alter/delete) and this was based on Torrance et al.'s LEA (read, evaluate, act) but with an emphasis on making changes to affect content quality, cogence and coherence. The GRIST mnemonic was used to support this by providing a means of evaluation. The pupils engaged in peer revision after first revising the work themselves. This involved negotiation, with the final say being with the author (Boscolo et al., 2004). The revisions were marked on the draft. A checklist supported this process. A time delay was placed between the drafting and revising to help the pupils see their texts as a reader rather than as the writer (Hoogeveen, 2012). In the same way the Editing process was modelled and experienced. They then considered how they had progressed towards their process and product goals and what they might do differently the next time.

Finally, step five, involved the writing of another essay to reinforce the process but without the modelling by the teacher and the same degree of collaboration. However, they continued to use peer revision (Boscolo et al., 2004) and to receive adult feedback (Graham et al., 2012) as they improve writing quality. This step was to work towards increasing independent use of the strategies, as this was the ultimate aim (Santangelo, Harris, Graham, 2008; Torrance et al., 2007). Once more, they evaluated their progress towards product and process goals.

The Write Away intervention shared many features with CSRI (Torrance et al., 2007) in particular and SRSD (Harris et al., 2009). However, there were some notable distinctions including: it incorporated Boscolo et al.'s (2004) model of peer revision, rather than the think alouds used in CSRI; pupils did not create their own self-regulatory statements as in CSRI and SRSD; pupils did not collaborate during drafting, unlike in CSRI; despite being taught how to plan they had been told, that provided they revised their work, they did not have to spend a long time on this; the pupils knew their finished essays would be displayed; peer revision was continued following the two essays in the teaching phase.

7.6 Control

The teachers of both control classes reported following the Big Writing programme (Wilson, 2012): "a whole-school framework for assessment, target setting and teaching…" (p.16, Wilson, 2012). The approach assumes that being able to select the type of text and use its features accurately and identifying the purpose of the writing task and responding appropriately are covered in the schools' normal curriculum. Big Writing instead focuses upon developing skills in grammar, handwriting, spelling and punctuation, and what was described as "'Writing Voice' or high level language structures" (p.12, Wilson, 2013). Writing voice was defined as VCOP (vocabulary, connectives, openers and punctuation) (p.13, Wilson, 2012). The approach involves: the use of targets in vocabulary, connectives, openers and punctuation (VCOP); the regular teaching of grammar, handwriting, spelling and punctuation; weekly opportunities for children to do extended writing ("Big Write"); the use of feedback; termly targeted assessment tasks (Wilson, 2012). The weekly "Big Write" for P6 consisted of 35 minutes of work on the correct use of vocabulary, connectives, sentence openers and punctuation (VCOP) before ten minutes of planning time. This was described as "oral or diagrammatical rehearsal of writing" (p.16, Wilson, 2016). After a break (interval) the pupils write individually, in silence for up to 45 minutes.

7.7 Measures

7.7.1 Teacher Questionnaire

The participant intervention teachers were given questionnaires pre (see appendix 7.4) and post (see appendix 7.5) the intervention period. They were assured of anonymity. The questionnaires consisted of two pages. The Teacher Pre Questionnaire had twelve rating scales and one open question.

The first five questions considered the frequency of different aspects of the writing process (pre-writing/planning, drafting, revising, editing and publishing (Scott et al., 2009)). They had been taken from the earlier Teacher Survey (see Chapter 4 and appendix 7.4). The responses were on a 10 point scale from 0 to 9 with 0 being

"Never" and 9 being "Always". This was a slightly different scale in that it had no absolute mid-point. This was in order to elicit a preference on the items.

The next seven questions investigated the teachers' beliefs about writing and their confidence in their ability to teach it. Each statement had to be rated on a 10 point scale from 0 to 9 with 0 being "Strongly Disagree" and 9 being "Strongly Agree". These too had been used in the earlier Teacher Survey and this would allow for comparison. The first of these inquired how much they valued writing: "Writing is an essential skill for students" (see appendix 7.4). Kiuhara et al. (2009) had asked a similar question. Next they were asked if pupils had the requisite writing skills to do their school work. Kiuhara et al.'s question (2009): "My students have the writing skills they need to do work in my class" (p.160) was used. The next item was designed to see if the teachers felt pupils had enough IT access to support their writing, as this had been found to be an issue in the earlier Teacher Survey. This would allow investigation of whether teacher perceptions of the sufficiency of IT changed as the pupils completed more revision activities. Kiuhara et al. (2009) had asked teachers whether the teacher education program and subsequent in-service training they had received had been adequate preparation to teach writing. Questions using local terminology were used, as in the Teacher Survey. This was followed by a question on the teachers' perceived self-efficacy at teaching writing. No studies in the literature review had asked this question directly. The penultimate question asked teachers to rate the statement: "I enjoy teaching writing". Finally, participant teachers were invited to record any thoughts or comments.

The post questionnaire included the same 13 questions and was given to both Intervention and Control participant teachers (see appendix 7.5). Intervention teachers had four further questions. Each statement was rated on a 10 point scale from 0 to 9 with 0 being "Strongly Disagree" and 9 being "Strongly Agree". The first item asked whether their pupils' writing skills had improved as a consequence of the intervention. They were then asked if they would use the programme again. This would give an indication of practicality. Teachers were then asked if they enjoyed using the programme and finally, whether their confidence had increased as a consequence.

7.7.2 Teacher Logs

The intervention teachers were asked to note against a copy of their programme the date when they delivered the different items and were invited to write brief comments.

7.7.3 Pupil Questionnaire

The participant pupils were given a questionnaire pre (see appendix 7.2) and post (see appendix 7.3) the intervention period. These were the same ones used in the high school study. The questionnaires were conducted anonymously. They consisted of one page. The questions were also read aloud by a teacher.

The Pre Student Questionnaire had two questions. These were 8-point rating scales from 0 to 7. The first question asked how much the pupils enjoyed writing with 0 being "Not At All" and 7 being "A Very Great Deal". This was to have a measure of the pupils' attitudes to writing. The second question inquired how good they were at extended writing compared with other pupils in their class. This was in order to assess their feelings of self-efficacy at writing. This rating scale went from 0 to 7 with 0 being "Very Poor" and 7 being "Excellent".

Both of these questions were repeated in the Post Student Questionnaire. In addition, the post questionnaire had a question only for pupils who had completed the intervention. This was to ascertain how much they had enjoyed the writing programme and ranged from 0 to 7 with 0 being "Not At All" and 7 being "A Very Great Deal".

7.7.4 Focus Group

Teachers who had delivered interventions were invited to volunteer to attend a focus group. This allowed more detailed, qualitative information to be obtained from the participants. Seven questions were asked (see appendix 7.9). Three items covered some areas from the questionnaire, namely, whether pupil's writing skills had improved, whether they would continue to use the programme and whether it had affected their confidence to teach writing. In addition, what the positives, challenges and adverse consequences had been about the programme were explored. Finally, they were invited to make any comments they wished.

7.7.5 Written Tasks

Participant pupils were given written tasks pre and post the intervention period. The two written tasks prompts, written tasks A and B, (see appendix 7.10) were administered in a cross-over design to account for any potential task bias. That is, half the sample completed task A first and half completed it for the second task. Which pupils completed which task was determined by having the pupils' names in alphabetical order and having the first pupil designated task A, the second task B, the third task A and so on. The assessments were completed in school supervised by their teachers under exam conditions. Instructions to the teachers were provided (see appendix 7.11). In addition to the two sides of paper on which the tasks were written, pupils were provided with a piece of paper which they were free to use as they wished. This was collected in along with the tasks. This would facilitate the writing of a plan but also mean that it would be known whether or not one had been made. Pupils were asked not to erase any errors but simply cross them out.

Fidalgo et al.'s (2015) intervention was in the genre of compare and contrast. To this end, they provided written material for the pupils to read prior to completing the tasks in order to account for differences in prior knowledge. However, this would have presented difficulties in selecting texts of appropriate readability for population as diverse as the broadly grade 8 pupils in the study. It was decided to select topics which would not necessitate prior academic knowledge and would be areas which one could assume pupils would be familiar with. Written Task A invited pupils to compare and contrast texting and phoning. Written Task B asked pupils to compare and contrast playing computer games and playing games outside.

The length, in words, of the pupils' written tasks and plans were recorded. The tasks were assessed by the researcher using a rubric (see appendix 7.1). The rubric was developed by the researcher. It had been initially refined following use with around twenty of the scripts in order to provide clarity over which category to place different papers. All the tasks were then assessed using the same rubric (see appendix 7.1). On occasion, as this assessment process progressed there were scripts which demonstrated ambiguity over which category to be placed into. A decision was made by the researcher about into which category to place the script on that aspect and a note was made of the rule. In this way, when another script had a similar ambiguity it was clear into which category it needed to be placed. This ensured consistency.

7.7.6 Observations

A lesson was observed for each intervention and control class in both schools by the researcher. An observation schedule was used (see appendix 7.6). Fixed interval sampling was used to calculate the percentage of time spent on-task by the students. This was taken every two minutes. In the interim periods the focus alternated between the teacher and the tables of students in rotation. The tables of students were rotated in order to offset any potential differences between them. For example, the students may have been seated according to ability or for behaviour management reasons. Information about whether or not the teacher and students were working on the programme and if the students were working as individuals or collaboratively was recorded.

7.8 Implementation Fidelity

A range of measures were used to assess the fidelity of implementation of the programme. The teachers used the teacher's logs to record when they delivered the different elements of the programme. This highlighted any areas of the programme which were reported as not implemented. Teachers were also invited to comment. Each condition was observed once using a schedule (see appendix 7.6) which used fixed time interval sampling to record the number of students on task in the class every two minutes. The class was divided into groups according to where the students were seated and in the intervening periods the observer observed the teacher for one interval then a group on rotation for the next interval. When the groups and teachers were observed whether or not they appeared to be working on the programme was recorded. The presence of an observer may have had an impact on the behaviour which was observed. Following the observation the teachers were given brief, verbal feedback as the process was also a formative one.

7.9 Procedure

The participant teachers were given a Primary Teacher Participant Information Sheet (see appendix 7.12) and written consent to participate in the study and share their anonymous data for potential publication was obtained (see appendix 7.13); none of the

teachers had not wanted to participate. The intervention teachers completed the Pre-test Teacher Questionnaire (see appendix 7.4) via internal mail. They were then provided with two training sessions held after school (see appendix 7.14). The training lasted two and half hours in total and covered the rationale for the study, the interventions and the research requirements.

The P6 class teachers within the schools spoke to the pupils about the project before the Primary Pupil Participant Information Sheet (see appendix 7.15) was shared with the pupils and their written consent to participate in the study was sought (see appendix 7.16). A copy of the Primary Pupil Participant Information Sheet was also sent to parents with a covering letter containing the researcher's contact details.

The following week the pupils were asked to complete the Pre Pupil Questionnaire (see appendix 7.2). During that week all of the P6 pupils were given up to 90 minutes to complete the pre written task. There were two prompts, tasks A and B administered in a cross-over design to account for any potential task bias (see appendix 7.10). Instructions were provided for the teachers to administer the tasks. The interventions were then delivered for six weeks. During this time the teachers kept logs. The week following this period the pupils were given the post written task under the same conditions as before. Next, they were invited to complete the Post Pupil Questionnaire (see appendix 7.3). They were then able to talk about the project with their teacher if they wished. Similarly, the intervention teachers and the control teachers were invited to complete the Post Teacher Questionnaire (see appendix 7.5). The intervention teachers were able to volunteer for a focus group which was held shortly afterwards. Following the study an executive summary was sent to teachers and senior staff at the school. A simplified version of the executive summary was made available for the schools to share with their pupils, which they could take home.

7.10 Data analysis

There were a number of sources of data. The pupil questionnaires had descriptive statistics produced for each question. Responses to open questions were categorized into themes where possible and the frequencies recorded in a table. Effect sizes were calculated for post-test versus pre-test mean responses. The written tasks scores were considered in terms of the different elements and as an overall writing quality score. In

addition, the lengths of the essays and plans before and after the intervention were compared. Descriptive statistics were produced. Written assessment mean scores and task and plan word length at pre and post-test were analysed using Student's related unequal variance t-tests for the intervention and control conditions. They were also analysed using Student's unrelated unequal variance t-tests comparing intervention and control conditions at pre and post-test. Effect sizes were calculated comparing post-test and pre-test mean scores and lengths. Effect sizes were also calculated comparing post-test means for the control and intervention conditions. Comments from the teacher logs were used to consider how much of the programme had been used. The teachers' responses in the focus group were collated into themes.

Chapter 8: High School Intervention Methodology

This chapter first describes the research design, ethical considerations and the sample for the high school intervention. Next, the nature of the interventions, the procedure and the data analysis are given.

8.1 Research Questions

The two research questions which this study investigated were:
Does the implementation of evidence-based teaching of writing practices improve writing quality for students aged on average at the start of the academic year 12 years 11 months (Secondary 2 (S2; broadly equivalent to 8th Grade)) in a high school in Southern Scotland?

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students aged on average at the start of the academic year 12 years 11 months (Secondary 2 (S2; broadly equivalent to 8th Grade)) in a high school in Southern Scotland?

8.2 Research Design

This study was quasi-experimental and used both quantitative and qualitative methods (Cohen, Manion & Morrison, 2011). It was felt that this approach would best answer

the research questions, as Grix noted, "Methods themselves should be seen as free from ontological and epistemological assumptions…" (p.180, 2002). A constructivist ontology was used, i.e. the view was taken that social phenomena and categories are produced through social interaction rather than having an independent existence (Grix, 2002). This was combined with an interpretivist epistemology, described by Cresswell as "…a form of interpretive inquiry in which researchers make an interpretation of what they see, hear, and understand. Their interpretations cannot be separated from their own backgrounds, history, contexts, and prior understandings" (p.209, 2009). Therefore in order to gain a richer picture of the phenomena research questions were approached from more than one perspective. The intention was to be able to triangulate the results, while acknowledging that the results would all be somewhat subjective. Objectivity was not claimed but triangulated subjectivity. The findings would therefore still be generalizable to some extent.

The research was undertaken in one high school in southern Scotland in S2 (broadly 8th grade). Social Studies was chosen as an exemplar of a subject which is not an English specialism but nevertheless includes a great deal of writing. In order to address the question of which combination of English and/or Social Subjects Teachers might be most effective at delivering the evidence-based intervention three different intervention conditions were used. These were: English teacher only; Social Studies teacher only; English teacher and Social Studies teacher (see table 8:1).

Table 8:1 Intervention Delivery and Number of Essays.

	Taught by	**Number of Essays**
Control	English Teachers and Social Studies Teachers	Business as usual
Intervention 1	Social Studies Teacher* only	2
Intervention 2	English Teacher and Social Studies Teacher*	2
Intervention 3	English Teacher only	2

*The same person.

The intervention content was the same for all three conditions. The teachers in the control condition delivered their usual curriculum, that is, they continued with business as usual. The writing quality of written tasks completed under exam conditions before and after the intervention period of six weeks was assessed using a rubric (see appendix

7.1). Word-counts of the written tasks and student's plans were made. Questionnaires (see appendices 7.2 and 7.3) were administered to all the students before and after the intervention. The teachers of the intervention completed questionnaires before the intervention began (see appendix 7.4). At the end of the intervention period all teachers in the study completed questionnaires, which included the opportunity to comment (see appendix 7.5). A voluntary focus group of intervention teachers was held. Teachers' logs of when they delivered different parts of the intervention were kept and each class was observed using an observation schedule (see appendix 7.6) for one lesson during the intervention period.

8.3 Ethical Considerations

Students were given the opportunity to opt-out of the intervention activities if they did not wish to participate and alternative activities closely related to the tasks were made available for this eventuality. Informed, written consent was secured from the students for the inclusion of their data in the study and possible publication.

All of the Social Studies and English teachers wished to participate in the study. The teachers were given an information sheet and written consent was obtained for participation and for use of their data, including possible publication.

There were a number of issues to be considered in terms of ethics. The most obvious challenge would be that students who were in the control classes did not receive the intervention. However, they continued to receive the curriculum they would were the research not to be taking place, what is termed: "business as usual" and in order to assess the efficacy of the interventions this was a necessary component. Similarly, students following the different interventions did not receive the same experiences. This was required in order to determine the most effective interventions. Which students received which interventions and which were in the control groups was dependent upon which teachers were delivering the interventions. In order to address these considerations, training was made available in the most effective interventions following the research to all teachers who wished to receive it. It was made clear that there was no reason why these students could not follow such programmes in the next academic year.

A further ethical consideration was whether or not to request informed, written consent from the parents/carers of the participants. On balance it was decided not to seek consent from the parents/carers for a number of reasons. Firstly, informed consent was being supplied by the schools on behalf of the parents (in loco parentis) and the schools were happy to proceed with the research studies without seeking written parental consent. Secondly, the students supplied their own, informed, written consent for participation in the study. They were provided with an information sheet, the opportunity to discuss the study with their teachers and the contact details of the lead researcher should they seek further clarification. They were free not to participate and alternatives were made available for that eventuality. Thirdly, the teachers were supplying informed, written consent to participate in the study. They had a duty of care to their students and had not suggested that informed, written consent be sought from parents. Fourthly, the interventions were comprised of teaching techniques which are in common usage. Fifthly, the students were not being subject to interview or asked to answer questions which a teacher might not normally ask of students and the data was made anonymous. Sixthly, the parents were made aware of the study and given a copy of the Secondary Student Information Sheet along with the lead researchers contact details so they could inquire further if required. Finally, chasing up missing parental responses would have created extra workload for already busy teachers.

Ethical approval for the study was given by the University of Dundee School of Education and Social Work Ethics Group.

8.4 Sample

Permission for the research project was given by the Head of Education in the Local Authority. Participation in the study was offered to all high schools in the region via email directly to the Head Teachers by the author. Seven schools responded positively. One of the schools had 13 students in S2 and was discounted because it would not have been possible to have a control class within the school. It also did not reflect the usual teaching numbers seen in other schools in the region. Two schools had S2 students placed in one of two or three sets on the basis of an ability measure, which would have introduced an additional variable. In addition, the larger of these two schools was to be moved to another site to allow for significant building works during the proposed time

of the intervention. This might have had an important impact on the ability of the school to implement the intervention, as the contact person within the school admitted.

In three high schools discussions around an intervention progressed further before the schools decided they could not participate. Two of the schools had staffing issues which meant that staff were already going to be given extra work before taking on a project which was more demanding than they had first realised. The third school withdrew because, although the Head Teacher and senior staff wanted to be included, many of the subject teachers refused the additional workload during what would be a period of examinations and portfolio preparation. This left one high school remaining.

Which students received which interventions and which were in the control groups was dependent upon which teachers were delivering the interventions. This was determined by the school, either by self-selection or a combination of self-selection and the drawing of straws.

For reasons of practicality and to ensure minimal disruption for the students which students were in which condition depended upon which teachers had which classes. There were four Social Studies groups and four corresponding English classes. Only one Social Studies class did not share Social Studies teachers and so this was allocated to intervention 2, namely delivery by a Social Studies teacher only; it was self-selecting. The English teachers drew numbered straws to determine which condition they were to take. This meant that the same Social Studies teacher had to take intervention 3, due to timetabling issues within the school (see table 8:1, p.258). The teacher agreed to this. During the intervention period the control class continued with "Business as usual", that is, they followed the curriculum and used the teaching methods they would have used were the study not being done in this school. However, they did know that the study was being conducted, as their written, informed consent to participate had been sought and they had been provided with information about the study. Whether or not this had had an effect on the behaviour of the teachers' and students in this condition was unknown.

The Local Authority in Southern Scotland where this study took place is one of the largest in Scotland in terms of area but not of population size; having an overall population of 150,270 in 2013 (Scottish Government, 2013b). The high school in this

study was located in the centre of a town with a population of around 31,600 (D&G Online, 2016). The percentage of students entitled to Free School Meals was 13.8%, compared to a regional average of 14.6%. The total number of students on roll in the school was 544. The age and gender of the S2 students in the three intervention and one control condition at the start of the intervention were compared (see table 8:2, p.262). The average age was 162.43 months, i.e. 13 years 6 months (range = 13 years 1 month to 14 years 4 months). The numbers in the conditions were different in order to meet the demands of the school timetable (range= 19 to 26).

Table 8:2 Gender and Mean Age of Participant Students

Condition	Total Number of Students In The Classes	Number Of Students In The Study (Percentage Attrition)	Number Of Female Students (Male Pupils) In The Study	Mean Age in Months of Participant Students
Control	19	15 (21.05)	8 (7)	161.73
Intervention 1 (Social Studies)	21	17 (19.05)	10 (7)	163.18
Intervention 2 (Social Studies and English)	26	20 (23.08)	12 (8)	162.65
Intervention 3 (English)	23	21 (8.70)	10 (11)	162.42
Total	89	73 (17.98)	40 (33)	162.43

There were no important differences in mean ages of the participant students between the conditions, although there were some gender differences, with notably more females than males in the Social Studies and combined Social Studies and English intervention conditions (see table 8.2). Overall, there were markedly more female student participants. There was noticeably less attrition from the English intervention than the other conditions. Attrition was due to a number of causes: one student declined to take part in the study; one missed both writing assessments; one did the same writing assessment twice; the remainder of the attrition was due to students missing one of the writing assessments.

8.5 Piloting

The first notion for the intervention was for it to include three different genres: compare contrast, problem-solution and cause and effect and for this to be over a 10 week period in order to facilitate more students learning the approaches. However, following discussion around an earlier form of the intervention with a Head Teacher and two senior English and Social Studies teachers in a different high school it was decided to reduce the number of genres of essays taught and the length of the programme dramatically. Previous studies had demonstrated improvements in writing quality when working on one genre over four and a half weeks at 8th grade (De La Paz, 2005). Early forms of the support sheets were also shared with a group of six S2 students who opined that they looked helpful but would benefit from a little colour.

8.6 Nature of the Interventions

The intervention was informed by the results of the survey and the literature review (see Chapters 3 and 6). Strategy instruction and self-regulation and peer revision were being under-utilised (see table 6.1, p.209) while IT was not included because many teachers felt that there was insufficient available to support students' writing (see table 6.4, p.212). The high school intervention with non-English specialists itself was a consequence of the survey's finding that large numbers of high school teachers without English in their degrees (60.8%) reported that the In-Service on teaching writing they had received had not been adequate and around a third felt to some extent they were not effective at teaching writing (see table 6.5, p.214). The English specialists were a means of comparison and would enable evidence-based decisions to be made about whom to focus In Service training upon.

The three interventions contained the same content and was called Write Away in order to make discussion around it simpler. The interventions differed in which lessons they were delivered in and who by: Intervention 1 was delivered only by a Social Studies Teacher in Social Studies classes; Intervention 2 was delivered by an English Teacher and a Social Studies teacher in both subject areas; Intervention 3 only by an English teacher in English classes; (see appendix 8.1 and 8.2 for programmes and support materials for one teacher and two teacher delivery). Intervention 2 was taught for the first three weeks of the six week period in the English class by an English Teacher. The remaining three weeks were taught in a Social Studies class by the Social Studies

Teacher. This was in order to investigate the efficacy of intervention delivery by different subject teacher combinations: could non-English specialists be an important part of raising writing standards? All the interventions were for two fifty-minute lessons per week, regardless of subject area. The intervention was called Write Away in order to make discussion around it simpler. Like in intervention 2, De La Paz (2005) had used Social Studies and Language Arts teachers. She had used the SRSD approach to have 8th grade Social Studies teachers teach historical reasoning and 8th grade Language Arts teachers to teach argumentative writing to the same cohort, consecutively. For this study, in intervention 2 (combined programme) both teachers covered the writing strategy.

The intervention comprised of five steps (see appendix 8.1) rather than individual lesson plans to enable the teachers to take into account the needs of their students and their timetables. The first step began with students considering what extended writing they currently did in school and how they did it in order to activate their prior knowledge (Lassonde and Richards, in Graham et al., 2013; Fidalgo & Torrance, in press) and to increase motivation. This was followed by an introduction to the Write Away process and the giving of the process goal (Schunk et al., 1991, 1993) of improving their extended writing. How to evaluate writing using the mnemonic GRIST (Goals, reader, ideas, structure and tied together (transition words/phrases)) was directly taught next. Mnemonics have been shown to help students remember product goals (De la Paz, 1999; Fidalgo et al., 2008) and product goals have been shown to be effective at improving writing quality (Graham et al., 2007; Rogers et al., 2008). This mnemonic was based on Fidalgo, Torrance and Lopez-Campelo's Spanish language mnemonic "OAIUE" (Objective, Audience, Ideas, Unite (ideas), Scheme (Esquema)) (2014). Students were also supplied with some genre knowledge (Hoogeveen, 2012) about compare and contrast essays before comparing a good and a mediocre compare and contrast essay (Torrance, Fidalgo & Robledo, 2015) using GRIST; the study of good models aids writing quality (Corden, 2007; Knudson, 1989). A simple structure for use with compare and contrast essays was highlighted in the good model essay, as text structure instruction has been shown to improve writing quality (Graham et al., 2012). Notes on the structure were provided to the pupils in order to provide a product goal.

The second step began to describe the Write Away process of "Think Plan Draft Revise Edit". Each step in the process provides a goal to work towards. Plan, draft, revise, edit

writing strategy instruction alongside self-regulation has been evidenced to raise writing quality and was an important part of the intervention (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). The Think stage was added in order to encourage students to take the time to recall the mnemonics, the writing process and to think of good ideas for their content. Some students alter their understanding of a topic little when writing- these profit most from a planning strategy while others learn as they write- these benefit most from a draft-revise strategy (Baaijen, Galbraith, & de Glopper, 2014). Therefore students were told that although expert writers tend to plan they do not need to do this at length, provided they spend enough time on revision. A real-life example of an author's text was provided to show the revisions. It is worth noting that Torrance et al. (2015) had found that six graders writing quality was improved just as much by having a product goal as when this was combined with process strategies, i.e. planning and revising strategies, but this had been in respect of a *short* assessment piece of writing: the process and product students had averaged around 29 minutes for the task. However, the students in the current study were older and had been given much more time (100 minutes) to complete their assessments. Moreover, it was hoped that the planning and revision strategies would prove useful in the students' longer pieces of writing both at the time of this study in class and later in their education.

To plan, the students were taught the mnemonic TROD (Think, Research, Organise, Develop). Harris, Graham, Mason and Friedlander (2008) used the mnemonic POW (Pick my idea, Organise my notes, Write and say more) as part of the SRSD process while Fidalgo et al. (2014) used POD (Think of ideas, organise ideas, develop your text). The planning mnemonic therefore had three similar steps but with the addition of researching: this is an important step for extended pieces of writing at high school and beyond. Students were also given the process goal of knowing how to write compare and contrast essays then they watched the process of planning modelled as a "think aloud" (p.40, Fidalgo, Torrance, Rijlaarsdam et al., 2015). Teacher modelling is also part of SRSD (Harris, Lane, Graham, et al., 2012). The think aloud included self-regulation of emotions as well as regulation in terms of working towards goals. A graphic organiser was used to assist in the Organise step. The students were then invited to discuss what they had noticed about the process, since reflection on modelling has been shown to be beneficial (Fidalgo, 2015). This was followed by the students planning their individual essays while receiving feedback from the teacher (Graham et

al., 2012, Hattie, 2009). This planning included collaboration (Graham et al., 2007) at the stage of discussing possible content then explaining their finished individual plans to each other (S. De La Paz, 2015 personal correspondence in relation to De La Paz, 2005). This was in contrast to CSRI, where students in pairs take turns to think aloud as they perform the task while the other student provides feedback (Torrance et al., 2007; Fidalgo et al., 2014). De La Paz (2005) reported using an SRSD approach and the students collaborated at the planning stage, although that alone. However, SRSD emphasises collaboration between the teacher and the student/s rather than the students with each other without a teacher present, other than to ensure they are using the strategies, although teachers are invited to encourage it (Harris, Lane, Graham, et al.,2012, associated online materials). This was recognised as an important difference between CSRI and SRSD (Torrance et al., 2007). The essays would be being shared in the class room and possibly the library in order to provide an authentic purpose (Purcell-Gates et al., 2007).

For the third step, the teacher modelled writing the first draft (Fidalgo, Torrance et al., in press; Torrance et al., 2007), paragraph by paragraph using the graphic organiser and notes on structure, while continuing to self-regulate. The teacher modelled a paragraph at a time then the students wrote theirs individually, having adult feedback as they did so (Graham et al., 2012, Hattie, 2009). The modelling was done paragraph by paragraph so that the features of the individual paragraphs would be more easily retained and to avoid confusion. Collaborative drafting was not used due to the lack of evidence for its efficacy when used without IT; personal correspondence with Torrance (M.Torrance, 16th November 2015) and De La Paz (S. De La Paz, 23rd November 2015) showed that references to collaborative writing did not actually refer to collaborative drafting in the sense of pupils working together on one joint draft. The draft was double spaced in order to make revision easier and to emphasise the fact that this was not the finished product. This was supported by the graphic organiser they had completed earlier and a checklist of important features to include.

Step four focused on revision, which has been shown to improve writing (Boscolo and Ascorti, 2004, De La Paz, 1999, Graham et al., 2007, Rogers et al., 2008) and the understanding of topics being learnt (Baaijen et al., 2014). Again, this was modelled by the teacher. Revision at the text rather than word level (like spelling) leads to greater improved writing quality (Zhang, 2001) and so revision and editing were separated,

with the less demanding editing (punctuation, grammar, spelling, font for IT) coming after the revision stage. This is in contrast to Torrance et al. (2007) and Fidalgo et al. (2008) who included editing within revision and Fidalgo et al. (2014) and Fidalgo et al. (2015) who did not include revision at all. From the literature review (see Chapter 3) Brunstein et al.' s(2011) and Glazer et al.'s (2007) use of SRSD in grade 4 in Germany included revision, encompassing editing and revision, but there was no peer collaboration. De La Paz's SRSD study with grade 8 students included only planning (2005). Furthermore, unlike with Torrance et al. (2007) and Fidago et al (2008) neither think alouds nor self-regulation statements were used by the students as part of this collaboration. The mnemonic REA/D was provided (re-read, evaluate, alter/delete) and this was based on Torrance et al.'s LEA (read, evaluate, act) but with an emphasis on making changes to affect content quality, cogence and coherence. The GRIST mnemonic was used to support this by providing a means of evaluation. The students engaged in peer revision after first revising the work themselves. This involved negotiation, with the final say being with the author (Boscolo et al., 2004). The revisions were marked on the draft. A checklist supported this process. A time delay was placed between the drafting and revising to help the students see their texts as a reader rather than as the writer (Hoogeveen, 2012). In the same way the Editing process was modelled and experienced. They then considered how they had progressed towards their process and product goals and what they might do differently the next time.

Finally, step five, involved the writing of another essay to reinforce the process but without the modelling by the teacher and the same degree of collaboration. However, they continued to use peer revision (Boscolo et al., 2004) and to receive adult feedback (Graham et al., 2012) as they improve writing quality. This step was to work towards increasing independent use of the strategies, as this was the ultimate aim (Santangelo, Harris, Graham, 2008). Once more, they evaluated their progress towards product and process goals.

The Write Away intervention shared many features with CSRI (Torrance et al., 2007) in particular and SRSD (Harris et al., 2009). However, there were some notably distinctive including: it incorporated Boscolo et al.'s (2004) model of peer revision, rather than the think alouds used in CSRI; pupils did not create their own self-regulatory statements as in CSRI and SRSD; pupils did not collaborate during drafting, unlike in CSRI; despite being taught how to plan they had been told, that provided they revised

their work, they did not have to plan unless they found it helpful; the pupils knew their finished essays would be displayed; peer revision was continued following the two essays in the teaching phase.

8.7 Measures

8.7.1 Teacher Questionnaire

The participant intervention teachers were given questionnaires pre (see appendix 7.4) and post (see appendix 7.5) the intervention period. They were assured of anonymity. The questionnaires consisted of two pages. The pre questionnaire had twelve rating scales and one open question. It was made clear they related to their work with S2 students only.

The first five questions considered the frequency of different aspects of the writing process (pre-writing/planning, drafting, revising, editing and publishing (Scott et al., 2009)). They had been taken from the earlier Teacher Survey (see Chapter 4 and appendix 7.4). The responses were on a 10 point scale from 0 to 9 with 0 being "Never" and 9 being "Always". This was a slightly different scale in that it had no absolute mid-point. This was in order to elicit a preference on the items.

The next seven questions investigated the teachers' beliefs about writing and their confidence in their ability to teach it. Each statement had to be rated on a 10 point scale from 0 to 9 with 0 being "Strongly Disagree" and 9 being "Strongly Agree". These too had been used in the earlier Teacher Survey and this would allow for comparison. . The first of these inquired how much they valued writing: "Writing is an essential skill for students" (see appendix 7.4). Kiuhara et al. (2009) had asked a similar question. Next they were asked if students had the requisite writing skills to do their school work. Kiuhara et al.'s question (2009): "My students have the writing skills they need to do work in my class" (p.160) was used. The next item was designed to see if the teachers felt students had enough IT access to support their writing, as this had been found to be an issue in the earlier Teacher Survey. This would allow investigation of whether teacher perceptions of the sufficiency of IT changed as the students completed more revision activities. Kiuhara et al. (2009) had asked teachers whether the teacher education program and subsequent in-service training they had received had been

adequate preparation to teach writing. Questions using local terminology were used, as in the Teacher Survey. This was followed by a question on the teachers' perceived self-efficacy at teaching writing. No studies in the literature review had asked this question directly. The penultimate question asked teachers to rate the statement: "I enjoy teaching writing". Finally, participant teachers were invited to record any thoughts or comments.

The post questionnaire included the same 13 questions and was given to both Intervention and Control Group participant teachers of S2 (see appendix 7.5). Teachers of the interventions had four further questions. Each statement had to be rated on a 10 point scale from 0 to 9 with 0 being "Strongly Disagree" and 9 being "Strongly Agree". The first item asked whether their students writing skills had improved as a consequence of the intervention. They were then asked if they would use the programme again as this would give an indication of practicality. Teachers were then asked if they enjoyed using the programme and finally, whether their confidence had increased as a consequence.

8.7.2 Teacher Logs

The intervention teachers were asked to note against a copy of their programme the date when they delivered the different items and were invited to write brief comments upon it as they wished.

8.7.3 Student Questionnaire

The participant students were given a questionnaire pre (see appendix 7.2) and post (see appendix 7.3) the intervention period. These were conducted anonymously. The questionnaires consisted of one page. The questions were also read aloud by a teacher.

The Pre Student Questionnaire had two questions. These were 8-point rating scales from 0 to 7. The first question asked how much the students enjoyed writing with 0 being "Not At All" and 7 being "A Very Great Deal". This was to have a measure of the students' attitudes to writing. The second question inquired how good they were at extended writing compared with other students in their class. This was in order to

assess their feelings of self-efficacy at writing. This rating scale went from 0 to 7 with 0 being "Very Poor" and 7 being "Excellent".

Both of these questions were repeated in the Post Student Questionnaire. In addition, the post questionnaire had a question only for students who had completed the intervention. This was to ascertain how much they had enjoyed the writing programme and ranged from 0 to 7 with 0 being "Not At All" and 7 being "A Very Great Deal".

8.7.4 Focus Group

Teachers who had delivered interventions were invited to volunteer to attend a focus group. This allowed more detailed, qualitative information to be obtained from the participants. Seven questions were asked (see appendix 7.9). Three items covered some areas from the questionnaire, namely, whether student's writing skills had improved, whether they would continue to use the programme and whether it had affected their confidence to teach writing. In addition, what the positives, challenges and adverse consequences had been about the programme were explored. Finally, they were invited to make any comments they wished.

8.7.5 Written Tasks

Participant students were given written tasks pre and post the intervention period. The two written tasks prompts, written tasks A and B, (see appendix 7.10) were administered in a cross-over design to account for any potential task bias. That is, half the sample completed task A first and half completed it for the second task. Which students completed which task was determined by having the students' names in alphabetical order and having the first student designated task A, the second task B, the third task A and so on. The assessments were completed in school supervised by school teachers under exam conditions. Instructions to the teachers were provided (see appendix 8.3). In addition to the two sides of paper on which the tasks were written, students were provided with a piece of paper which they were free to use as they wished. This was collected in along with the tasks. This would facilitate the writing of a plan but also mean that it would be known whether or not one had been made. Students were asked not to erase any errors but simply cross them out.

Fidalgo et al.'s (2015) intervention was in the genre of compare and contrast. To this end, they provided written material for the students to read prior to completing the tasks in order to account for differences in prior knowledge. However, this would have presented difficulties in selecting texts of appropriate readability for population as diverse as the broadly grade 8 students in the study. It was decided to select topics which would not necessitate prior academic knowledge and would be areas which one could assume students would be familiar with. Written Task A invited students to compare and contrast texting and phoning. Written Task B asked students to compare and contrast playing computer games and playing games outside.

The length, in words, of the students' written tasks and plans were recorded. The tasks were assessed by the researcher using a rubric (see appendix 7.1). The rubric was developed by the researcher. It had been initially refined following use with around twenty of the scripts in order to provide clarity over which category to place different papers. All the tasks were then assessed using the same rubric (see appendix 7.1). On occasion, as this assessment process progressed there were scripts which demonstrated ambiguity over which category to be placed into. A decision was made by the researcher about into which category to place the script on that aspect and a note was made of the rule. In this way, when another script had a similar ambiguity it was clear into which category it needed to be placed. This ensured consistency.

8.7.6 Observations

A lesson was observed for each of the four conditions by the researcher. This included the control group. An observation schedule was used (see appendix 7.6). Fixed interval sampling was used to calculate the percentage of time spent on-task by the students. This was taken every two minutes. In the interim periods the focus alternated between the teacher and the tables of students in rotation. The tables of students were rotated in order to offset any potential differences between them. For example, the students may have been seated according to ability or for behaviour management reasons. Information about whether or not the teacher and students were working on the programme and if the students were working as individuals or collaboratively was recorded.

8.8 Implementation Fidelity

A range of measures were used to assess the fidelity of implementation of the programme. The teachers used the teacher's logs to record when they delivered the different elements of the programme. This highlighted any areas of the programme which were reported as not implemented. Teachers were also invited to comment. Each condition was observed once using a schedule (see appendix 7:6) which used fixed time interval sampling to record the number of students on task in the class every two minutes. The class was divided into groups according to where the students were seated and in the intervening periods the observer observed the teacher for one interval then a group on rotation for the next interval. When the groups and teachers were observed whether or not they appeared to be working on the programme was recorded. The presence of an observer may have had an impact on the behaviour which was observed. Following the observation the teachers were given brief, verbal feedback as the process was also a formative one.

8.9 Procedure

The participant teachers were given a Teacher Participant Information Sheet (see appendix 8.4) and written consent to participate in the study and share their anonymous data for potential publication was obtained (see appendix 7.13); none of the teachers had not wanted to participate. Straws were drawn to help determine which teachers would take which intervention or control classes. The timetable in the school placed some limitations on this. The intervention teachers completed the Pre Teacher Questionnaire (see appendix 7.4) via internal mail. They were then provided with two training sessions held after school (see appendix 8.5). The training lasted two and half hours in total and covered the rationale for the study, the interventions and the research requirements.

The project lead within the school spoke to the 8th grade students about the project before the Secondary Student Participant Information (see appendix 8.6) was shared with the students and their written consent to participate in the study was sought (see appendix 8.7). A copy of the Secondary Student Participation was also sent to parents with a covering letter containing the researcher's contact details.

The following week the students were asked to complete the Pre Student Questionnaire (see appendix 7:2). During that week all of the 8th grade students were given 100

minutes to complete the pre written task. There were two prompts, tasks A and B administered in a cross-over design to account for any potential task bias (see appendix 7.10). Instructions were provided for the teachers to administer the tasks. A public holiday of two weeks followed. The interventions were then delivered for six weeks. During this time the teachers kept logs and each class, including the control, was observed once. All three interventions were for two lessons of 50 minutes per week. The week following this period the students were given the post written task under the same conditions as before. Next, they were invited to complete the Post Student Questionnaire (see appendix 7.3). They were then able to talk about the project with their teacher if they wished. Similarly, the intervention teachers and the control teachers were invited to complete the Post Teacher Questionnaire (see appendix 7.5). The intervention teachers were able to volunteer for a focus group which was held shortly afterwards.

Following the study an executive summary was sent to teachers and senior staff at the school. A simplified version of the executive summary was made available for the schools to share with their students, which they could take home.

8.10 Data analysis

There were a number of sources of data. The student questionnaires had descriptive statistics produced for each question. Responses to open questions were categorized into themes where possible and the frequencies recorded in a table. Student questionnaire post-test responses from the different conditions were compared with a theoretical distribution of equal values and analysed using the Chi-square test. Student questionnaire responses at post-test were also analysed using the Mann-Whitney test for comparisons between the interventions and the control and between the different interventions. Effect sizes were calculated for post-test versus pre-test mean responses for the four conditions.

The written tasks scores were considered in terms of the different elements and as an overall writing quality score. In addition, the lengths of the essays and plans before and after the intervention were compared. Descriptive statistics were produced. Written assessment mean scores and task and plan word length at pre and post-test were analysed using Student's related unequal variance t-tests for the intervention and control

conditions. They were also analysed using Student's unrelated unequal variance t-tests comparing intervention and control conditions at pre and post-test. Effect sizes were calculated comparing post-test and pre-test mean scores and lengths.

Comments from the teacher logs were used to consider how much of the programme had been used. The teachers' responses in the focus group were collated into themes.

Chapter 9: Write Away Intervention Results

The implementation fidelity of the Elementary School Write Away interventions and the associated quantitative and qualitative data will be given. This will be followed by

the implementation fidelity, quantitative data and qualitative data for the High School intervention.

9.1 Elementary Results

9.1.1 Implementation Fidelity

9.1.1.1 Observations

Observations of lessons were made in order to consider implementation fidelity. An observation schedule devised for this study was used to observe a lesson under each condition during the intervention period (see appendix 7.6). The number of pupils on-task (i.e. doing as instructed by the teacher) was counted every two minutes. In between, the teacher and alternating groups of pupils were observed more closely. Following the observations the teachers were given feedback so that the process would also be formative.

i) Eastfield intervention class

The 24 pupils were on-task for 97.22% of the 48 minute lesson. The lowest percentage was 83.33% after 42 minutes but this went back up to 91.67% for the next time sample, when they began to work in pairs. The atmosphere was calm. The teacher was working on stage 5 of the intervention: Reinforce the Write Away process, genre knowledge and how to evaluate writing. Develop independent use of Write Away process. The pupils were revising their second essay. The writing process and the mnemonics were discussed. Individual whiteboards were used by the pupils to attempt revising a sample of writing and their answers shared as a class very effectively. More than half the class had suggestions. Children were praised for their efforts. At times the teacher used the terms revise and edit interchangeably although they are defined as different elements within this programme. However, it was made clear that the focus was not on checking spelling at this point i.e. it was on revision as defined in the programme. Pupils were provided with the "Revise to Improve" sheet and the Checklist for revision. During revision some pupils used erasers rather than crossing out on their double-spaced drafts. While the pupils worked individually on their own texts the teacher circulated making comments, giving specific praise and assisting where required. When a pupil inquired

about spelling the teacher replied that they need not do that now. After 44 minutes they moved onto working in pairs, looking at each other's work and making positive comments. One pupil in a dyad would put a star on the other's work to indicate where they thought a change was required. They then discussed this and agreed on a revision, using their regular pencils rather than a different colour as suggested in the programme. The teacher said this process would continue the next lesson and that the children enjoyed working in pairs this way. At the end of the lesson they were told they would continue with this paired work. The teacher reported that cut and stick had not been used for practical reasons but that coloured pens would be explored.

ii) Eastfield control class

The control class was observed for 34 minutes (the length of the writing activity). The 28 pupils were on-task for 97.42% of the time. On four occasions a few children chatted and so brought the percentage down to 92.86%. There was a calm atmosphere. The lesson was highly structured. The teacher had a VCOP (Vocabulary, Connectives, Openers, Punctuation) display; as used in the Big Writing programme that was being used (Wilson, 2012). The pupils began by looking at a "model text" together. They discussed nouns and adjectives as a class before being individually tasked with underlining nouns. The class then told the teacher where the nouns were. Next, adjectives were defined before the pupils had to individually find them, followed by "Wow words" (good quality vocabulary). The teacher then had the class tell her what they had found. A writing frame was given out, with boxes corresponding to different features of an alien. The children were invited to consider the words they would be using to describe their alien. They were encouraged to use Wow words such as "diminutive." They were given 10 minutes to plan their descriptive writing individually. The teacher circulated and assisted those who required it or appeared off-task. The teacher reminded the class to erase errors on their plans rather than crossing out things as this was "a little bit lazy". The teacher reminded the class of metaphors, without using the word. Occasionally a pupil's work was praised such that others could hear but why it was being praised was not given. The class then packed up.

iii) Westfield intervention class first observation

The class of 23 pupils was observed for 32 minutes. They were on-task for 77.99% of the time overall Much of that was spent listening to the teacher. For the final six minutes of the lesson this fell to around 44.92%. The teacher was working on step 2 of the intervention: provide and model the planning strategy. The class were restless so the teacher did the planning as shared writing, as suggested in the programme. The teacher engaged in some "think aloud". Following this the class did not discuss what they had noticed about planning. The correct structure of introduction, similarities, differences and conclusion was referred to. No reference to GRIST was made. REA/D was mentioned despite being something which comes later in the programme. The class identified some similarities and then differences, having researched these earlier. No graphic organiser was used during the shared writing. Whole sentences were used rather than notes. The teacher then wrote some of the conclusion in sentences, using phrases such as "To sum up" and "In conclusion". The teacher then gave out the graphic organiser, explained the sections and told them they could work in pairs. The teacher circulated as the pupils worked. Later, following a comment by the researcher, the teacher told the class to use bullet points or notes rather than whole sentences – unlike what they had just seen. The pupils completed little work during the lesson.

The teacher had time-consuming personal commitments outside school at the time and this had impacted upon the teacher's focus on the intervention. The teacher was given feedback and it was decided to make a further observation later in the programme

iv) Westfield intervention class second observation

The class room was darkened in order to see the electronic whiteboard. The class of 23 pupils was observed for 60 minutes and was on-task for 73.48% of this time. On five occasions this percentage dropped to 43.47% and once to 21.74%: two minutes from the end of the one hour lesson. The teacher moved pupils around and redirected students to increase the numbers on task. The focus of the lesson was step 4 of the intervention: provide and model revising and editing strategies. The teacher modelled revising the draft text on the board to the class after discussing revision. A spelling error had deliberately been put in so that it could be ignored at this point when highlighted by a pupil. Asterisks were used to mark where additions would be inserted, such as topic sentences. Ties were also added to the text. The REA/D mnemonic was referred to; it was on display, along with GRIST; both terms were explained. After 24 minutes the

class began to re-read their own drafts individually. These had not been double-spaced so it was not as easy to alter texts as it could have been. The drafts were generally very neat and there seemed to be reluctance in some to change the work. Different colours were not used. Pupils who were behaving appropriately were occasionally praised. The teacher circulated the room helping individuals, giving feedback and redirecting the class. Peer revision was discussed and the class began to do this after 44 minutes. About half of the class were on-task for 10 of the remaining 16 minutes. A shorter lesson might also have helped maintain focus. At the end pupils were invited to indicate if they found it "hard". They were reminded it was an "important step".

v) Westfield control class

The control class of 26 pupils was observed for the 30 minute writing lesson. The teacher was following the Big Writing programme (Wilson, 2012). The class were on-task for 94.61% of the time; falling to 69.23% following students writing sentences individually after six minutes of the lesson. At the start of the lesson the teacher had reminded them of VCOP on display and instructed them to consider this when they then worked on sentences. When some went off-task the teacher rang a bell, got them to stop and then shared pupil's sentences with the class, evaluating them in terms of VCOP. The whole class paid attention. The class were then invited to look at a photo of New York and to consider possible story ideas. The class were allowed to discuss this while producing individual ideas. They were told they could "bounce ideas off each other". The teacher reminded them that they have "15 minutes to plan in Big Writing". The teacher circulated considering suggestions. The class have to consider characters, plot, setting and VCOP in their individual plans. They worked on this for the rest of the lesson. The teacher circulated making quiet comments then the class packed up.

9.1.1.2 Teacher Logs

i) Eastfield elementary teacher's log

The teacher's log showed the programme had been covered. There was nothing to indicate anything had been missed. Comments of note were that cut and stick was not practical because the pupils were writing in their jotters and that taking a sentence from

a pupil's draft and revising it as a whole class was helpful in teaching the children how to revise their work. It was noted that a lot of work on revision was done with the class.

ii) Westfield elementary teacher's log

The teacher's log showed the programme had been covered. There was nothing to indicate anything had been missed.

9.1.1.3 Summary

The Eastfield intervention was delivered with a high degree of implementation fidelity as evidenced by the observation and the teacher log. The exception was that the pupils did not use different colour pens for revision at the time of the observation but it was reported that they did subsequently. The pupils collaborated appropriately, were given ample feedback and were highly engaged during the observation. They completed the two essays required in the programme. The Eastfield control class were also highly engaged with their activities. They followed activities and used terms from the Big Writing programme (Wilson, 2012) which the teacher reported following. This included grammar.

The Westfield intervention at the time of the first observation showed very limited implementation fidelity with omissions and elements done in the wrong order. Feedback was immediately given to the teacher, who had had other personal commitments outside school at that time, and a further observation made a couple of weeks later. At the time of the second observation the implementation fidelity was much improved, with the terms used correctly and pupils collaborating on tasks as per the programme. However, the pupils did not double space their drafts nor use coloured pens to revise. On both occasions the pupils were not as engaged as the other elementary classes had been. Nonetheless, they completed the two essays required in the programme. The programme had been delivered overall with a reasonable degree of implementation fidelity. The Westfield control class reportedly followed the Big Writing programme (Wilson, 2012). Terms and activities from the programme were evident in the observation. The Westfield control class was markedly more engaged than the Westfield intervention class.

9.1.2 Quantitative Data

9.1.2.1 Descriptive Statistics

i) Writing assessment

The means and standard deviations were calculated for the intervention and control conditions (see table 9. 1). The mean word counts of the writing assessments were lower at post-test than pre-test for all conditions except for Westfield control, which also had the mean longest scripts of all the conditions both pre and post. The mean Plan Word Count was markedly higher at Eastfield School, both for intervention and control, than at Westfield School both at pre and post-test. The mean length of plans increased from pre to post for both intervention conditions. The Westfield control class mean Plan Word Count increased slightly at post-test but was still very short (0.58 words).

Aspects of writing quality of the pre- and post-test writing samples were assessed using the rubric developed during the study (see appendix 7.1). This assessed the Opening, Body, Conclusion, Conventions, Transitions and Language of the texts. These scores were aggregated to form the Writing Quality score. Small increases post-test compared to pre-test were seen for Eastfield control for Opening, Body, Conclusion, Transitions and Language mean scores (see table 9.1, p.280). The mean Conventions score remained the same. Overall, this resulted in a relatively small increase in the overall mean Writing Quality Score. The Westfield control class mean scores deteriorated slightly at post-test for Opening, and Transitions, while increasing slightly for Body, Conventions and Language and showing no change for Conclusions. As a result, the Westfield control Writing Quality mean score at post-test was very slightly lower than at pre-test.

Table 9.1 Descriptive Statistics for Elementary Schools Intervention and Control Conditions

			Word Count	Plan Word Count	Opening	Body	Conclusion	Conventions	Transitions	Language	Writing Quality (Total Score)
Eastfield Control	**Pre-Test**	**N**	26	26	26	26	26	26	26	26	26
		Mean	187.88	46.50	1.46	2.65	1.04	2.23	2.35	2.00	11.73
		SD	74.14	22.29	0.89	1.17	0.19	0.89	0.87	0.68	2.92
	Post-Test	**N**	26	26	26	26	26	26	26	26	26
		Mean	175.85	28.73	1.50	2.88	1.15	2.23	2.54	2.08	12.38
		SD	71.87	31.35	0.80	1.22	0.36	0.75	0.84	0.67	3.04
Eastfield Intervention	**Pre-Test**	**N**	25	25	25	25	25	25	25	25	25
		Mean	218.56	40.92	1.84	2.28	1.32	2.00	2.28	1.84	11.56
		SD	68.04	34.20	0.83	0.66	0.47	0.75	0.66	0.61	2.30
	Post-Test	**N**	25	25	25	25	25	25	25	25	25
		Mean	215.04	90.96	3.48	3.60	2.88	2.16	3.76	2.72	18.60
		SD	55.21	44.11	0.75	0.57	0.65	0.61	0.43	0.78	2.56
Westfield Control	**Pre-Test**	**N**	19	19	19	19	19	19	19	19	19
		Mean	237.05	0.11	1.68	1.84	1.21	1.68	1.89	1.74	10.16
		SD	63.66	0.45	0.60	0.64	0.44	0.65	0.56	0.69	2.08
	Post-Test	**N**	19	19	19	19	19	19	19	19	19
		Mean	257.53	0.58	1.53	1.89	1.21	1.74	1.79	1.79	10.05
		SD	131.19	2.46	0.75	0.60	0.57	0.78	0.52	0.61	2.26
Westfield Intervention	**Pre-Test**	**N**	20	20	20	20	20	20	20	20	20
		Mean	191.8	1.3	1.35	1.60	1.40	1.60	1.70	1.40	9.05
		SD	222.62	5.23	0.57	0.58	0.58	0.58	0.64	0.49	2.01
	Post-Test	**N**	20	20	20	20	20	20	20	20	20
		Mean	146.85	12.70	2.80	2.90	1.85	2.15	3.30	2.25	15.25
		SD	47.78	15.66	0.75	0.89	0.36	0.48	0.90	0.54	2.55

With regard to the intervention conditions, both showed marked improvements in mean scores in most areas and Writing Quality mean scores. Eastfield intervention had a slight improvement in mean Conventions score at post and striking improvements in mean Opening, Body, Conclusion, Transitions and Language scores. This resulted in the greatest improvement in mean Writing Quality score seen between the conditions. Eastfield also had the highest overall mean Writing Quality score at post-test. Increases in all six areas of writing quality were evident in the Westfield intervention post-test scores, with particularly marked improvements in Opening, Body, Transitions and Language mean scores.

ii) Pupil questionnaire

Pupil participants responded to the question "How much do you enjoy writing?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal" and means and standard deviations were calculated (see table 9.2, p). Reductions in mean ratings were seen at post-test for all conditions. However, smaller reductions were seen at each school for the intervention than the control conditions; with the smallest decrease seen with the Eastfield intervention condition. Pupil participants also rated the statement "How good are you at extended writing compared with other students in your class?" on a scale from 0 to 7, where 0= "very poor" and 7= "excellent". Mean ratings reduced for all conditions at post-test except for Westfield intervention, where a marked increase was observed. In addition, pupil participants who had been in the intervention condition rated the statement "How much have you enjoyed doing this writing programme?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal". The mean rating from the Eastfield intervention pupil participants (6.48) was very high while for the Westfield intervention pupil participants the mean rating was markedly lower (3.62), being around the mid-point of the scale.

iii) Teacher questionnaire

Intervention participant teachers were invited to rate a number of statements at pre and post, while control condition teachers rated the statements at post-test only. The number and nature of the responses meant that calculating means and standard deviations would have been obfuscating rather than illuminating. Consequently, the raw ratings were reported (see table 9.3, p.282).

Table 9.2 Descriptive Statistics for Elementary School Intervention and Control Conditions Pupil Questionnaire

Question		**Eastfield**				**Westfield**			
		Control		**Intervention**		**Control**		**Intervention**	
		Pre-test	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**
1. How Much Do You Enjoy Writing? (0-7 Scale Where 0 = Not At All, 7 = A Very Great Deal)	**N.**	26	26	25	25	21	23	21	21
	Mean	5.16	4.65	5.72	5.64	5.14	4.43	4.43	4
	SD.	1.28	1.59	1.31	0.97	1.36	1.58	2.66	2.54
2. How Good Are You At Extended Writing Compared With Other Students In Your Class? (0-7 Scale Where 0= Very Poor, 7 = Excellent)	**N.**	26	26	25	25	21	23	21	21
	Mean	4.54	4.35	5.08	4.80	4.67	4.30	3.38	4.34
	SD.	1.08	1.07	1.38	1.57	1.55	1.46	1.94	1.91
3. How Much Have You Enjoyed Doing This Writing Programme? (0-7 Scale Where 0= Not At All, 7 = A Very Great Deal)	**N.**	N.A.	N.A.	N.A.	25	N.A.	N.A.	N.A.	21
	Mean	N.A.	N.A.	N.A.	6.48	N.A.	N.A.	N.A.	3.62
	SD.	N.A.	N.A.	N.A.	0.64	N.A.	N.A.	N.A.	2.73

The participant teachers rated five statements relating to the practice of the teaching of writing on a scale from 0 to 9, where 0= never, 9= always (see table 9.3, p.283). The statement “How frequently P6 students use prewriting (drawing pictures or making notes) or planning as part of the writing process” was rated as “9” by Eastfield intervention and Westfield intervention teachers at pre-test. This remained the rating for Eastfield intervention at post-test, but fell slightly for Westfield intervention. The Eastfield control was the maximum at post but the Westfield control rating was notably lower. The responses to the statements “How frequently P6 students write a draft as part of the writing process” and “How frequently P6 students add/remove/ rearrange/replace (revise) text as part of the writing process” showed a similar pattern at post-test: the Eastfield intervention teacher ratings fell while the Westfield intervention teacher ratings increased. The Eastfield control ratings at post-test were at the maximum while the Westfield control ratings were quite low (“2” and “4” respectively).

Table 9.3 Elementary School Intervention and Control Conditions Teacher Questionnaire

Question	Eastfield				Westfield			
	Control		Intervention		Control		Intervention	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
How Frequently P6 Students Use Prewriting (Drawing Pictures Or Making Notes) Or Planning As Part Of The Writing Process (0-9 Scale Where 0= Never, 9= Always)	N.A.	9	9	9	N.A.	6	9	8
How Frequently P6 Students Write Draft As Part Of Writing Process (0-9 Scale; 0= Never, 9=Always)	N.A.	9	7	6	N.A.	2	6	9
How Frequently P6 Students Add/Remove/ Rearrange/Replace (Revise) Text As Part Of The Writing Process(0-9 Scale Where 0= Never, 9= Always)	N.A.	9	7	4	N.A.	4	7	9
How Frequently P6 Students Check Spelling, Punctuation, Grammar, Syntax Etc. Of Their Text (Edit/Proofread) As Part Of The Writing Process (0-9 Scale; 0= Never, 9= Always)	N.A.	9	9	9	N.A.	5	9	9
How Frequently P6 Students Make Their Work Available To An Audience, As Part Of The Writing Process (0-9 Scale Where 0= Never, 9= Always)	N.A.	4	6	4	N.A.	5	6	8
Writing Is An Essential Skill For P6 Students (0-9 Scale; 0= Strongly Disagree, 9=Strongly Agree)	N.A.	9	9	9	N.A.	8	9	9
My P6 Students Have The Writing Skills They Need To Do Work In My Class (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	9	7	7	N.A.	6	8	7
P6 Students Have Sufficient IT Access To Support Their Writing Activities (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	6	6	4	N.A.	8	8	6
My Teacher Training Course Adequately Prepared Me To Teach Writing (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	0	0	1	N.A.	5	1	1
I Have Received Adequate In Service Training To Teach Writing (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	0	7	5	N.A.	2	2	No Resp.
I Am Effective At Teaching Writing (0-9 Scale; 0= Strongly Disagree, 9=Strongly Agree)	N.A.	8	7	7	N.A.	6	7	6
I Enjoy Teaching Writing (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	8	7	8	N.A.	3	7	8
P6 Students' Writing Skills Have Improved As A Consequence Of The Write Away Programme (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	N.A.	N.A.	8	N.A.	N.A.	N.A.	8
I Will Use The Write Away Programme Again (0-9 Scale; 0= Strongly Disagree, 9=Strongly Agree)	N.A.	N.A.	N.A.	9	N.A.	N.A.	N.A.	9
I Enjoyed Teaching Writing Using The Programme (0-9 Scale; 0= Strongly Disagree, 9=Strongly Agree)	N.A.	N.A.	N.A.	8	N.A.	N.A.	N.A.	9
The Write Away Programme Has Increased My Confidence In Teaching Writing (0-9 Scale Where 0= Strongly Disagree, 9=Strongly Agree)	N.A.	N.A.	N.A.	8	N.A.	N.A.	N.A.	9

For the statement "How frequently P6 students check spelling, punctuation, grammar, syntax etc. of their text (edit/proofread) as part of the writing process" both intervention teachers gave maximum ratings at pre and post-test (see table 9.3, p.283). The Eastfield control also gave a "9" at post but the Westfield control gave a noticeably lower rating.

In response to the prompt "How frequently P6 students make their work available to an audience, as part of the writing process" the intervention teachers gave the same response at pre-test but ratings went down for Eastfield intervention and up for Westfield intervention at post-test. The Eastfield control rating was the same at post-test as the Eastfield intervention teacher's rating while the Westfield control rating was lower than the Westfield intervention rating.

Teacher participants also rated seven statements on writing beliefs on a scale from 0 to 9, where 0= strongly disagree, 9= strongly agree. "Writing is an essential skill for P6 students" was rated very highly by all the teachers at pre and post-test. The statement "My P6 students have the writing skills they need to do work in my class" was strongly agreed with by the Eastfield control teacher but rated at "7" by the intervention teachers at post-test. The Westfield intervention teacher had rated it a little higher at pre-test than post-test. The Westfield control rating was the lowest of the respondents but still quite high. Intervention teacher ratings of the statement "P6 students have sufficient IT access to support their writing activities" both fell at post-test but from different initial ratings: the Eastfield intervention rating being two points lower. Control ratings at post both matched the intervention ratings at pre-test.

The sentence "My teacher training course adequately prepared me to teach writing" elicited very low ratings at pre and post-test for all teachers excepting the Westfield control ("5"). A much higher rating of the statement "I have received adequate in service training to teach writing" was given by the Eastfield intervention teacher than the others, who gave low ratings. The Eastfield intervention rating fell and the Westfield intervention teacher did not respond to this statement at post-test. A degree of effectiveness was reported in response to the prompt "I am effective at teaching writing" by the teachers, with the Eastfield control giving the highest rating ("8"). The Eastfield intervention perceived effectiveness remained the same at post-test, while the Westfield intervention rating reduced slightly. The statement "I enjoy teaching writing" elicited the same quite high intervention teacher ratings at pre-test which increased

slightly at post-test. The Eastfield control teacher rating was the same score as the intervention teachers at post-test but the Westfield control rating was markedly lower ("3"), indicating a degree of lack of enjoyment of teaching writing.

The final four statements related to the Write Away programme itself and so only intervention teachers responded to the questions with a scale from 0 to 9, where 0= strongly disagree, 9= strongly agree. There was very strong agreement that they would use the programme again and very high or maximum ratings in response to the statements: "P6 students' writing skills have improved as a consequence of the Write Away programme", "I enjoyed teaching writing using the Write Away programme" and "The Write Away programme has increased my confidence in teaching writing".

9.1.2.2 Inferential Analysis - Probabilities

i) Writing assessment

Writing assessment mean scores at pre and post-test were analysed using Student's related unequal variance t-tests for the intervention and control conditions (see table 9.4, p.286). There were no significant changes in mean Word Count for any condition. The mean Plan Word Counts had significant reductions for the Eastfield control assessments at post-test but significant increases for both intervention conditions (both $p<.01$). Statistically significant ($p<.01$) improvements in mean scores for Opening, Body, Conclusion, Transitions, Language and Writing Quality were also seen at post-test for both intervention conditions. Changes to mean scores for control conditions were not statistically significant for these areas. Conventions mean scores were significantly higher ($p<.01$) at post-test for the Westfield intervention but no other condition.

Additionally, writing assessment mean scores were analysed using Student's unrelated unequal variance t-tests comparing intervention and control conditions at pre and post-test (see table 9.5, p.287). Westfield control means, in comparison with Eastfield control means, had significantly higher Word Counts and significantly lower Plan Word Counts at pre ($p=.02$, $p<.01$) and post-test ($p<.01$).

Table 9.4 Probabilities on Student's Related Unequal Variance T-Tests of Pre-post Average Scores in Elementary Intervention and Control Conditions

	Word Count	**Plan Word Count**	**Opening**	**Body**	**Conclusion**	**Conventions**	**Transitions**	**Language**	**Writing Quality (Total Score)**
Eastfield Control	0.47	***0.01**	0.85	0.31	0.08	1.00	0.23	0.57	0.20
Eastfield Intervention	0.76	***0.01**	***0.01**	***0.01**	***0.01**	0.21	***0.01**	***0.01**	***0.01**
Westfield Control	0.33	0.44	0.82	0.67	0.67	0.79	0.30	1.00	0.83
Westfield Intervention	0.35	***0.01**	***0.01**	***0.01**	***0.01**	***0.01**	***0.01**	***0.01**	***0.01**

*The actual figure was lower than this.

** The actual figure was higher than this.

Table 9.5 Probabilities on Student's Unrelated Unequal Variance T-Tests of Average Scores on Elementary Intervention and Control Conditions

Comparison	**Word Count**		**Plan Word Count**		**Opening**		**Body**		**Conclusion**		**Conventions**		**Transitions**		**Language**		**Writing Quality (Total Score)**	
	Pre-test	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**
Westfield Control vs. Eastfield Control	**0.02**	***0.01**	**0.02**	***0.01**	0.78	0.91	***0.01**	***0.01**	**0.05	0.30	**0.03**	**0.04**	0.12	***0.01**	0.33	0.15	***0.05**	***0.01**
Eastfield Intervention vs. Eastfield Control	0.14	0.50	**0.04**	***0.01**	0.13	***0.01**	0.18	****0.01**	***0.01**	***0.01**	0.33	0.72	0.77	***0.01**	0.39	***0.01**	0.82	***0.01**
Westfield Intervention vs. Eastfield Control	0.94	***0.01**	0.12	**0.03**	0.62	***0.01**	***0.01**	0.96	****0.01**	***0.01**	***0.01**	0.67	***0.01**	***0.01**	***0.01**	0.35	***0.01**	***0.01**
Eastfield Intervention vs Westfield Control	0.37	***0.01**	0.21	***0.01**	0.16	***0.01**	0.06	***0.01**	0.69	***0.01**	0.15	0.07	0.15	***0.01**	0.81	***0.01**	***0.05**	***0.01**
Westfield Intervention vs. Westfield Control	0.40	0.33	***0.01**	***0.01**	0.36	***0.01**	0.15	***0.01**	0.42	***0.01**	0.68	0.06	0.14	***0.01**	0.06	**0.02**	0.11	***0.01**

Comparison	Word Count		Plan Word Count		Opening		Body		Conclusion		Conventions		Transitions		Language		Writing Quality (Total Score)	
	Pre-test	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**	**Pre-test**	**Post-test**
Westfield Intervention vs. Eastfield Intervention	0.62	***0.01**	***0.01**	***0.01**	**0.03**	***0.01**	***0.01**	***0.01**	**0.63**	***0.01**	**0.05	0.95	***0.01**	**0.05	****0.01**	**0.02**	***0.01**	***0.01**

*The actual figure was lower than this. ** The actual figure was higher than this.

Westfield control means were also significantly lower at pre and post-test for Body (both p<.01), Conventions (p=.03, p=.04) and Writing Quality (p<.05, p<.01) (see table 9.5, p.287). In addition, Transitions mean scores were lower at post-test (p<.01). When Eastfield intervention results were compared with Eastfield control it was found that Eastfield control means were significantly lower at pre-test (p=.04) but significantly higher at post-test (p<.01) for Plan Word Count. Eastfield mean scores were also significantly higher at pre-test for Conclusions (p<.01) and significantly higher at post-test for Openings, Body, Conclusion, Transitions, Language and Writing Quality (all p<.01). Westfield intervention mean scores were significantly lower than Eastfield control mean scores at pre-test for Body, Conventions, Transitions, Language and Writing Quality (all p<.01) while being significantly higher for Conclusion (p>.01). Westfield intervention means at post-test were also significantly lower for Word Count (p<.01) and Plan Word Count (p=.03) but significantly higher for Opening, Conclusion, Transitions and Writing Quality (all p<.01).

Eastfield intervention means were significantly higher at pre-test than for the Westfield control for Writing Quality (p<.05) and significantly higher at post-test for Plan Word Count, Opening, Body, Conclusion, Transitions, Language and Writing Quality (all p<.01). The Westfield intervention mean Plan Word Count was significantly lower (p<.01) than Westfield control at pre-test, although both means were low (1.3, 0.11; see table 9.1). However, at post-test Westfield intervention means were significantly higher than Westfield control for Language (p=.02, see table 9.5) and also for Plan Word Count, Opening, Body, Conclusion, Transitions and Writing Quality (all p<.01). Westfield intervention means were significantly lower than Eastfield intervention means at pre-test for Opening (p=.03) and for Plan Word Count, Body, Transitions, Language and Writing Quality (all p<.01). Westfield intervention means were also significantly lower than Eastfield intervention means at post-test for Language (p=.02) and Word Count, Plan Word Count, Opening, Body, Conclusion and Writing Quality (all p<.01).

9.1.2.3 Effect sizes

i) Writing Assessment

Effect sizes comparing post-test and pre-test were calculated for all four conditions (see table 9.6, p.291). Cohen's descriptors were used to compare effect sizes, where d =

0.20 is small, d = 0.5 is moderate and d = 0.8 is large (Cohen and Manion (1997)). The additional descriptor of very small was added by the author for effects < 0.20 but > 0.09.

For the Eastfield control condition small positive effect sizes were seen for Writing Quality, Transitions and Conclusion (see table 9.6, p.291). Very small positive effect sizes were evident for Body and Language and there was a very small negative effect size for Word Count. There was a moderate negative effect size for Plan Word Count. By contrast, for the Eastfield Intervention there were very large positive effect sizes for Plan Word Count, Opening, Body, Conclusion, Transitions, Language and Writing Quality. The largest effect size was for Writing Quality (ES=2.89). There was also a small positive effect on Conventions.

Westfield control writing assessments demonstrated small positive effect sizes for Word Count and Plan Word Count, a small negative effect size for Opening and a very small negative effect size for Transitions. However, the Westfield intervention had notable effects on all areas: the Word Count had a small reduction but Plan Word Count, Opening, Body, Conclusion, Conventions, Transitions, Language and Writing Quality all evidenced large positive effects; the largest effect size was for Writing Quality (ES= 2.70).

Effect sizes were also calculated comparing post-test means for the control and intervention conditions. The Eastfield intervention had a moderate positive effect upon Word Count and Body. There were also large positive effect sizes for Plan Word Count, Opening, Conclusion, Transitions, Language and Writing Quality; the largest effect size was for Conclusion (ES=3.27). In addition, there was a very small negative effect size for Conventions. The Westfield intervention produced a large negative effect size for Word Count and a moderate positive effect size for Conventions. Large positive effect sizes were seen for Plan Word Count, Opening, Body, Conclusion, Transitions, Language and Writing Quality. The largest effect size was for Writing Quality (ES=2.16).

Table 9.6 Effect Sizes for Elementary Intervention and Control Conditions

	Effect Size Eastfield Control Post-test vs. Pre-test	**Effect Size Eastfield Intervention Post-test vs. Pre-test**	**Effect Size Westfield Control Post-test vs. Pre-test**	**Effect Size Westfield Intervention Post-test vs. Pre-test**	**Effect Size Eastfield Intervention Post-test vs. Eastfield Control Post-test**	**Effect Size Westfield Intervention Post-test vs. Westfield Control Post-test**
Word Count	-0.16	-0.06	0.20	-0.28	0.61	-1.12
Plan Word Count	-0.65	1.27	0.27	0.98	1.63	1.08
Opening	0.05	2.06	-0.23	2.18	2.55	1.70
Body	0.19	2.14	0.09	1.73	0.75	1.32
Conclusion	0.40	2.75	0.00	0.93	3.27	1.35
Conventions	0.00	0.23	0.07	1.03	-0.10	0.64
Transitions	0.22	2.65	-0.19	2.05	1.83	2.05
Language	0.11	1.26	0.08	1.66	0.88	0.80
Writing Quality (Total Score)	0.22	2.89	-0.05	2.70	2.21	2.16

ii) Pupil questionnaire

The effect sizes for the mean Pupil Questionnaire responses post-test versus pre-test were calculated (see table 9.7). The first question, "How much do you enjoy writing?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal", produced negative effects for all conditions, that is, perceived enjoyment had reduced over the time interval. There was a moderate negative effect size for both control conditions and a very small negative effect size for the Westfield intervention condition. The effect size of the Eastfield intervention mean rating was negligible.

The second question, "How good are you at extended writing compared with other students in your class?" on a scale from 0 to 7, where 0= "very poor" and 7= "excellent" produced very small negative effect sizes in the Eastfield control and intervention conditions. There was a small negative effect size for the Westfield control condition but a moderate positive effect size for the Westfield intervention.

Table 9.7 Effect Sizes for Elementary Intervention and Control Conditions Pupil Questionnaire

Question	**Eastfield**		**Westfield**	
	Effect Size Control Post-test vs. Pre-test	**Effect Size Intervention Post-test vs. Pre-test**	**Effect Size Control Post-test vs. Pre-test**	**Effect Size Intervention Post-test vs. Pre-test**
1. How Much Do You Enjoy Writing? (0-7 Scale Where 0 = Not At All, 7 = A Very Great Deal)	-0.32	-0.07	-0.48	-0.16
2. How Good Are You At Extended Writing Compared With Other Students In Your Class? (0-7 Scale Where 0= Very Poor 7 = Excellent)	-0.18	-0.19	-0.24	0.49

9.1.3 Qualitative Data

9.1.3.1 Pupil Questionnaire

Pupils were invited to note any comments they wanted to make on the post-test questionnaire.

i) Westfield elementary pupil comments

No control group pupils made comments when invited to as part of the post-test questionnaire. Just three out of 21 intervention group pupils made comments. These were positive. One said it was "great fun" and another that "I wish we could keep doing it", while the third simply expressed gratitude for having being able to do it.

ii) Eastfield elementary pupil comments

No control group pupils made comments when invited to as part of the post-test questionnaire. Comments were made by 19 of the 25 intervention group pupils. The responses were categorised into themes (see table 9.8).

Table 9.8 Eastfield Elementary Pupils Themed Responses to an Open-ended Question Inviting Comments

Themes	**Frequency**
Enjoyment	12
Approval of the checklist/enjoyment of checking work	8
Would like to do more of this	4
Found it helpful/learned a lot	3
Made a suggestion for improvement	2
Liked the variety of topics	1

a. Enjoyment

Twelve comments were made on this item. Five pupils made specific reference to compare and contrast; one stating, "I have really enjoyed doing this compare and contrasting work and I think it is a good thing to have because it inspires young people to enjoy writing". Another noted, "I really liked this form of writing".

b. Approval of the checklist/enjoyment of checking work

Reference to checking or the checklist was made by eight pupils. Seven of these mentioned a "checklist" or "checksheet" by name. One pupil remarked, "I really liked checking it over."

c. Would like to do more of this

Four pupils felt moved to say they would want to continue with the Write Away programme. One noted, "I like doing the writing I hope it goes on forever." Another stated, "I would like to do more of this in P7."

d. Found it helpful/learned a lot

Comments were made on this theme by three pupils. One stated, "This really helped my writing and it was fun!" Another wrote, "I think I have learned LOADS about compare and contrast. GRIST will be very useful I think."

e. Made a suggestion for improvement

Two pupils made suggestions. One remarked, "It think it was fun but (*it*) would be better with a different style between each week." (Italics added). Another noted, "I liked writing about something new and the check list was a good idea but have some WOW words on it."

f. Liked the variety of topics

One pupil opined "I think it was a good idea to do something different for every piece of writing I done (sic)".

9.1.3.2 Teacher Questionnaire

No elementary control teachers made comments. The two intervention teachers wrote a brief comment each. The Eastfield teacher noted, "Looking more into the structure of writing a non-fiction piece has really improved the general quality of writing. The class

thoroughly enjoyed the process and could clearly see an improvement in quality. I always plan writing and will continue to, but the revise part I will definitely do far more often now."

The Westfield Intervention teacher wrote, "Write Away has definitely increased my confidence in teaching functional writing. It didn't suit all children, as some prefer creative, although those that tend to struggle with creative really benefited from this approach!"

9.1.3.3 Elementary Teacher Focus Group

A focus group of the two intervention elementary teachers was held post-test using seven questions (see appendix 7.9). The responses were collated into themes.

i) Pupil writing skill improvement

Both teachers felt that writing skills had improved. One noted, "The biggest impact has been on the structure of the writing, actually how they lay it out and paragraphs that type of thing…" The other teacher observed that now "they wrote in paragraphs and most didn't before." The pupils' increased ability to revise their work was noted by both teachers. One teacher said, "…the idea of revising it and proof reading it, which is something I've been going on about all year and none of them have taken it up until now. They're a lot better." One teacher noted, "I think it works…"

ii) Pupil enjoyment

One teacher noted, "The kids have enjoyed it, I've enjoyed doing it." The teacher observed that some pupils who didn't usually like writing - "the poorer ones especially" - enjoyed it. The teacher went on to remark, "Mine have really enjoyed the peer revision as well and being able to have a chance to look over one another's (*work*). It was something I did a bit of before but doing it religiously with this, the kids can't wait to hear what someone else has done. Can I mark this with them? Can I see what they are doing? It's been a real positive for mine." (Italics added). The other teacher noted that some pupils who did not like creative writing enjoyed informative writing and added,

"Mine have really liked having it displayed and knowing that people can come in and read it".

iii) Revision and editing

The value of revision and editing was commented upon: "What I did with my writing was I always had a plan and tried to structure it out for them but the revising and editing, that was something at the end, check it over, and it was forgotten about. Whereas, like we've said before, that that has been a massive impact, being able to redraft it and look at it again and see the changes they've made. I'll be doing that for just about every writing piece that I do next year. If not every single one. It's had a massive impact." Similarly, the other teacher noted, "The Reread, Evaluate, Alter, Delete has been particularly useful… I would use that for any writing, whether it was creative, informative or whatever…" It was noted that the checklist was popular with pupils. One teacher reported, "they actually wanted to do that, it was like: "Can we do that? Again linking in with that peer revision with it I think worked really well".

iv) Teacher confidence

Both teachers agreed it had increased their confidence in teaching writing. One noted, "I feel much more comfortable teaching it because you've given us the training on it and we've talked about it and everything. Whereas, normally in writing …I don't remember getting told how to teach writing when I was at Uni…It definitely has improved my confidence anyway." Another remarked, "…having your training to do this type has kind of backed up what I felt I was doing and given me extras." They both felt that "It's good to have someone telling you how to actually do it rather than just guessing."

v) Reduced teacher workload

The impact of peer revision and editing on workload was highlighted by one teacher, "I feel as though the way we've worked it has taken a big load of my shoulders as well, in terms of marking because they're now revising it and editing it, checking it changing it all themselves. I'm not looking at it properly until it's a good piece of work or their best

piece of work. I'm only picking out little tweaks for next time, so, as I say, that's been a big positive because it has lessened my workload drastically."

vi) Challenge of the programme

One teacher noted that "The initial getting used to the mnemonics and how it's actually presented…" in the first couple of weeks of the programme was the most challenging part. Although the teacher went on to state, "Once they got the idea of how to write it in their heads it felt fairly straightforward to be honest"

vii) The writing assessment

Both teachers noted that some pupils found it challenging to complete the writing assessment tasks without their usual prior discussions in class. One commented, "A lot of mine struggled with thinking of ideas for the assessment."

viii) Vocabulary

One teacher observed, "Just knowing from what I've seen in their writing in the previous weeks their looking for high quality words has been less and it's been more about the content that they've been putting in." But he could not say for definite. The other teacher felt there had been no negative impact upon vocabulary.

ix) Suggested changes

One teacher suggested adding vocabulary into the Write Away programme and "having a bank of ideas (*writing topics*) for what classes could do" (italics added). The teacher later said, "The way it's went has been pretty successful. I can't think of anything I would change." The benefit of not having to do the writing assessments in future was also remarked upon. This was because the teachers would be assessing the writing produced in the pupils' books.

x) Continued usage

Both teachers reported that they would use the programme again. One remarked, “I would do the same, it’s a unit of work. It’s fitted in really nicely with my topic.” The teachers made no negative comments about using the programme again.

9.2 High School Results

9.2.1 Implementation Fidelity

9.2.1.1 Observations

Observations of lessons were made in order to consider implementation fidelity. An observation schedule devised for this study was used to observe a lesson under each condition during the intervention period (see appendix 7.6). The number of students on-task (i.e. doing as instructed by the teacher) was counted every two minutes. In between, the teacher and alternating groups of students were observed more closely. Following the observations the teachers were given feedback so that the process would also be formative.

A student of the high school in a different grade died shortly prior to the two control observations. The observations could not be delayed without being outside of the intervention period.

i) Control English class

The class of 16 students from the control group was observed for 44 minutes. Three students did not arrive until eight minutes into the lesson and a further three arrived after 14 minutes, having been at meetings. The overall percentage on-task was 89.54%. The lowest score was 50% in the final two minutes of the lesson prior to the bell. The room was noticeably hot. A Learning Assistant was in the class. The class were invited to individually read again a good exemplar of a “discursive” essay with its accompanying plan. The goals of producing their own plan and essay were written on the board. The class were asked to work on plan first. Students were given feedback on their plans as the teacher circulated the room. The teacher encouraged students and

praised them throughout the lesson, using this as a strategy for getting students back on-task sometimes. Around half way through the lesson the class were reminded to use the approaches used in the example while varying them. The importance of giving reasons for opinions was highlighted, like in the example. After the plan, the class had to work on their introduction. Individual goals were given to some students, along with the knowledge the teacher would be returning to see how they had got on. No good work was shared. The lesson came to an end and they packed up.

ii) Control social studies class

A Modern Studies class of 17 students in the control group was observed for 40 minutes. A Learning Assistant was in the class. The percentage of students on-task was 87.06%. The lowest percentage was 41.17% after 26 minutes of the lesson during individual working. At this point the teacher stopped the class and altered the activity successfully bringing nearly all the class back on-task very quickly. The lesson began with a question and answer session on the Scottish Parliament election results involving the use of the internet on the whiteboard. Humour was used effectively to redirect students. A worksheet was given out which contained the results and the writing task instructions. The results were discussed as a class. After eight minutes they were given their writing task. They were to write a paragraph reporting on how each party had done in the election. Four sentence starters were to be included in each paragraph: "The party will be happy about the result because…"; "They will also be happy because…"; "However they will be unhappy because…"; "This means that…". When they had finished they compared the national results with the results of a poll held in the school among the students. The teacher circulated the class helping individuals and addressing the whole class when it was felt that others might benefit. An off-task student was successfully redirected by a quiet word. The students worked individually on their tasks. Time limits were set for tasks and specific goals for some more able students. As mentioned above the writing period ended when the class lost interest. The teacher discussed the students' conclusions with the class and praised individuals, some of whom gave their answers out loud. The class then watched some TV clips of the election as the teacher explained what they meant. Different media were used effectively in the lesson.

iii) English intervention class

The English intervention students were observed in their English class. The 20 students were on-task for 80.59 % of the 34 minutes of the lesson spent on writing. The class was supported by two Learning Assistants. The focus of the lesson was step 5: develop independent use of Write Away. The students were asked to consider a topic for their second essay and graphic organisers were given out then discussed. Students were told they would have internet access for researching their essay in the next lesson. GRIST was mentioned but not the other mnemonics. The first three parts of GRIST were given and briefly explained (Goal, Reader, Ideas) but not "Structure" and "Tied". The teacher later said that no mention had been made of "Tied" because the teacher felt they were "not ready" for that yet, despite this being the second essay and only two weeks of the programme remaining. The students then worked individually on their essay plans using the graphic organiser. The teacher assisted students as required and gave feedback on their ideas individually but not as a class. Twenty-four minutes into the lesson the teacher told the class that the essays they worked on last time would be given out and they would have to edit them. This was in the wrong order in terms of the programme, as after planning they should draft and they should not have started planning a second essay before completing the first one. The students were not told how to edit in this lesson. They were not asked to do this collaboratively, as described in the programme. The teacher told the class that areas which needed changing had been underlined by the teacher i.e. the work had been marked. This is not in the programme as peer revision is an important part of the process. The teacher called out students' names and they went to the desk to collect their previous essays. At this point the numbers on-task dropped sharply. For the last eight minutes of the observation the percentage on-task averaged 38.75%. The teacher then moved the activity onto completing student profiles for the remainder of the lesson.

It is worth noting that the English teacher later stated in the focus group that by the end of the intervention "a lot of my kids hadn't finished the second essay."

iv) Social studies and English intervention class

The 24 students in the Social Studies and English intervention group who were observed in their English lesson were on-task for 97.61% of the 40 minute lesson. The focus was step 4: provide and model revising and editing strategies. The teacher seemed to suggest to the researcher after the lesson that revision had not been modelled but had been explained. It was not modelled in the observed lesson. At the start of the lesson the teacher recapped where they were in the writing process and explained the mnemonic REA/D with a focus on content and structure, as per the programme. Students were given the Revise To Improve sheet and told how to revise their work. They were told to re-read it first. The lesson was highly structured with step-by-step instructions and clear expectations. The students had highlighters and began to revise their own work. The teacher circulated giving feedback. This was followed by instruction in peer revision before the students were instructed to discuss each other's texts in pairs and consider how to revise the work. The students moved to make pairs. The teacher gave feedback to the class and reminded them of the instructions; the checklist was referred to. The class spent around six minutes on peer revision before returning to revise their work individually for a while. The focus then moved on to editing, which was explained. Dictionaries were provided which some students used. The teacher reminded the class to check for spellings, plural agreement and capital letter use. The students edited for about five minutes before the teacher ended the lesson with a plenary, covering all the mnemonics used, the writing process and what they will do next lesson.

v) Social studies intervention class

A class of students in the Social Studies intervention group was observed for a 40 minute Social Studies lesson. There were 18 students in the group and they were on-task for 90.28% of the time. The lowest percentage occurred after 34 minutes when it dropped to 61.11%, at which point, the teacher circulated, talked to the class and brought most of the students back on-task. The focus of the lesson was step 3: provide and model drafting strategies. The teacher had on the whiteboard requirements as listed in the programme: double spaced, focus on content, use graphic organiser, encourage yourself, topic sentence, tied together. The teacher had added reasons why they were important next to each one. The students also had the appropriate prompt sheets. The drafts were to be done on loose paper. They had already had this modelled and now were writing their drafts, having produced plans in a previous lesson. The teacher

explained the task clearly. When students were stuck the teacher sometimes prompted through the use of questions. The teacher circulated the class assisting and giving feedback. The teacher praised student's work and made suggestions, such as adding an example. After 18 minutes the teacher reminded the students to look at their plan again and emphasised the importance of encouraging oneself. They were reminded of the goal: writing a first draft. A student with behaviour difficulties was put on a separate desk. The students produced around three pages of writing. Towards the end the teacher told the class how much time was left and advised them to check that they had got the important ideas from their plans into their drafts. They were reminded of the goal to complete a first draft and that drafting is about "momentum" (i.e. keeping flowing, altering later). At the end of the lesson the teacher recapped to the class what they had done and gave feedback based on the criteria on the board.

9.2.1.2 Teacher logs

i) English intervention teacher's log

The way the log was completed made it difficult to be certain which elements had been covered. It was assumed that parts of the programme with dates next to them were completed. For step 1 for the mnemonic GRIST the teacher only explained the terms "Goal", "Reader" and "Ideas". The "How To Structure Your Compare and Contrast Essay" worksheet was discussed in a subsequent lesson. Steps 2, 3 and 4 were apparently covered. The teacher specifically noted that drafting had been modelled in step 3. For step 4, with a focus on revision and editing, it was noted that "many did not engage with the process thoroughly- just wanted to get on with good copy". It was noted that planning the second essay and revision of the first essay for some occurred on the same date. Step 5 comments indicated that the second essay was planned and researched over two lessons. They then had one lesson to write the essay. It is not clear whether they completed that draft in a lesson. This was the final date in the log. They did not then revise and edit this second essay.

ii) Social studies and English intervention English teacher's log

The English teacher covered the first four steps of the intervention. Highlighting indicated the programme was followed except for "model revising, thinking aloud as

before". It was noted that students "sometimes struggled to identify what to improve/edit". The teacher reported working hard to use the terminology.

iii) Social studies and English intervention social studies teacher's log

The teacher reported covering all the final step of the intervention. It was noted that many students could not remember the mnemonics from their earlier work with the English teacher. The Social Studies teacher added in "a little research time" for the planning stage of the second essay. The students used peer revision and editing. "Most" students completed the final copy of their second essay.

iv) Social studies intervention teacher's log

The teacher postponed the comparison of a mediocre essay and a good essay from step 1 until after step 2 (planning) noting it was "not a good idea yet for this group" but also that it was "due to no copies". Step 2 was completed i.e. the students planned their first essay. It was noted that the students were "not really interested" in their work being shared in a folder in class or the library. Before step 3 the students looked at the model good and mediocre essays. It was reported that this "worked a treat" before they began to draft. Steps 3 and 4 were completed as per the programme. For step 5 the teacher noted that after independently planning the second essay there were contextual difficulties: "This class severely disrupted last 2-3 lessons. Most (*students*) involved in PE day and track and field events. Most steps taken but disjointed and disrupted. Also will not finish rewrite until 27th" (italics added). The second writing assessment task was administered on the 23th May so this meant at least some, and perhaps all, of the students had not finished their second essay by that time.

9.2.1.3 Summary

There was a range of implementation fidelity between the teachers of the high school intervention groups. The Social Studies teacher, when teaching the Social Studies intervention, had a moderate to high degree of implementation fidelity. The observed lesson stuck to the programme tightly and the class was quite engaged. However, an activity from step 1 was done in step 2 and the teacher's log showed that disruption to the school timetable meant the programme was not quite completed before the final writing assessment task. With regard to the Social Studies and English intervention the

same Social Studies teacher reported covering all of the requisite part of the intervention and that "most" completed the final draft of the second essay. The English teacher also responsible for this intervention had the highest level of students on-task observed in a lesson. Almost all the programme was followed but how to revise was not modelled to the students by the teacher. This was an important part of the intervention. Overall, therefore, the Social Studies and English intervention showed moderate programme fidelity. The weakest implementation fidelity was seen with the English intervention. Observation, conversation and the log showed that not all the GRIST mnemonic was taught to the students. In addition, during the observed lesson the delivery of the programme was muddled: students were asked to plan the second essay then "edit" the first essay. This was done without explaining the term and without peer collaboration, as required in the programme. The chance that other parts of the programme were delivered in a similar fashion could not be discounted. In addition, from the log it was not clear if the students managed to finish the draft of the second essay: certainly none of them revised and edited it before the end of the intervention period. Moreover, the lowest percentage of high school students on-task, both overall and in discrete time slots, were seen with this class: for the last eight minutes of the observation less than half the class were on-task. In conclusion, the English intervention was delivered with low implementation fidelity.

Observation showed that both control classes used product goals to some extent, the Social Studies control teacher using them particularly effectively. The English control class were taught using a model essay and plan and given feedback as they worked. The Social Studies control class were observed writing a series of paragraphs with specified sentence starters embedded in them. Behaviour was managed appropriately in both classes and the average percentage of students on-task was 89.54% and 87.06% respectively.

9.2.2 Quantitative Data

9.2.2.1 Descriptive statistics

i) Writing assessment

The means and standard deviations were calculated for the intervention and control conditions (see table 9. 9, p.305). The mean Word Counts reduced at post-test for all conditions; the largest reduction was for the Social Studies intervention.

Table 9.9 Descriptive Statistics for High School Intervention and Control Conditions

			Word Count	Plan Word Count	Opening	Body	Conclusion	Conventions	Transitions	Language	Writing Quality (Total Score)
Control	**Pre-test**	**N**	15	15	15	15	15	15	15	15	15
		Mean	215.73	30.00	2.40	1.87	2.20	2.67	2.20	2.07	13.40
		S.D.	77.61	35.21	0.95	0.50	0.75	0.94	0.91	0.77	2.87
	Post-test	**N**	15	15	15	15	15	15	15	15	15
		Mean	188.87	0.00	2.13	1.80	2.13	2.73	2.53	2.20	13.40
		S.D.	60.89	0.00	0.88	0.40	0.62	0.93	0.72	0.65	2.65
Social Studies Intervention	**Pre-test**	**N**	17	17	17	17	17	17	17	17	17
		Mean	256.06	26.76	1.82	2.18	1.71	2.47	1.88	1.94	11.82
		S.D.	106.25	32.24	0.92	0.78	0.82	0.78	0.83	0.53	2.96
	Post-test	**N**	17	17	17	17	17	17	17	17	17
		Mean	161.71	3.12	2.94	3.11	1.82	2.53	2.88	2.47	15.71
		S.D.	70.60	12.47	1.06	0.83	0.78	0.92	0.76	0.61	3.64
Social Studies & English Intervention	**Pre-test**	**N**	20	20	20	20	20	20	20	20	20
		Mean	227.25	34.10	2.25	1.90	1.90	3.00	2.05	2.15	13.25
		S.D.	101.47	40.02	0.89	0.44	0.62	0.77	0.38	0.65	2.00
	Post-test	**N**	20	20	20	20	20	20	20	20	20
		Mean	211.85	24.45	3.00	2.60	2.10	3.15	2.40	2.60	15.85
		S.D.	72.61	27.75	0.45	0.86	0.62	0.85	0.73	0.66	2.69
English Intervention	**Pre-test**	**N**	21	21	21	21	21	21	21	21	21
		Mean	172.20	13.67	1.43	2.14	1.24	1.71	1.90	1.81	10.24
		S.D.	83.50	25.75	0.66	0.71	0.53	0.88	0.81	0.79	2.79
	Post-test	**N**	21	21	21	21	21	21	21	21	21
		Mean	140.29	5.05	2.10	2.57	1.57	1.86	2.19	2.19	12.48
		S.D.	74.05	22.57	0.75	0.73	0.66	0.83	0.73	0.59	2.68

Similarly, the Plan Word Counts reduced at post-test for all conditions, the greatest reduction being for the control condition (pre= 30.00, post= 0.00) (see table 9.9, p.305).

Aspects of writing quality of the pre- and post-test writing samples were assessed using the rubric developed during the study (see appendix 7.1). This assessed the Opening, Body, Conclusion, Conventions, Transitions and Language of the texts. These scores were aggregated to form the Writing Quality score. The Opening and Body mean scores at post-test were lower for the control condition but higher for the intervention conditions, the greatest improvement seen for the Social Studies intervention. Marked increases were seen post-test for Conclusion mean score for the Social Studies and Social Studies and English interventions. The English intervention mean Conclusion score also increased while there was a slight decrease for the control. Slight improvements in Conventions mean scores were seen for all conditions. Increased Transition mean scores were also seen for all conditions but the increase for the Social Studies intervention was greater than for the other conditions. All the conditions were higher post-test for Language but for the control condition this was only slightly so. The Writing Quality mean scores were unchanged at post-test for the control but higher for the three intervention conditions. The greatest improvement was for the Social Studies intervention. This, and the Social Studies and English intervention, had notably higher Writing Quality at post-test than the other conditions.

ii) Student questionnaire

Student participants were invited to respond to the question “How much do you enjoy writing?” on a scale from 0 to 7, where 0= “not at all” and 7= “a very great deal” and means and standard deviations were calculated (see table 9.10, p.307). The control and intervention responses were combined at pre-test; this was then compared with the different conditions at post-test. The control and the Social Studies and English intervention were slightly higher at post-test than the combined pre-test mean score, while the other two interventions were slightly lower and below the mid-point of the scale. All the means were around the same size. The highest mean rating post-test was for the Social Studies and English intervention (3.93) and the lowest was for the English intervention (3.30). Students were also asked, “How good are you at extended writing compared with other students in your class?” on a rating scale from 0 to 7, where 0= “very poor” and 7= “excellent”. All the mean ratings were slightly higher at post-test

than the combined pre-test mean; the highest mean score was for the Social Studies intervention (3.88). In addition, the intervention student participants rated the question "How much have you enjoyed doing this writing programme?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal". The Social Studies and Social Studies and English intervention mean ratings were notably below the scale midpoint and lower than for the English intervention students.

Table 9.10 Descriptive Statistics for High School Intervention and Control Conditions Student Questionnaire

Question	Number, Mean and SD.	Control and Interventions Combined Pre-test	Control Post-test	Social Studies Intervention Post-test	Social Studies & English Intervention Post-test	English Intervention Post-Test
1. How Much Do You Enjoy Writing? (0-7 Scale Where 0 = Not At All, 7 = A Very Great Deal)	**N.**	86	17	17	23	20
	Mean	3.74	3.88	3.38	3.93	3.30
	SD.	1.98	1.49	1.60	1.45	2.08
2. How Good Are You At Extended Writing Compared With Other Students In Your Class? (0-7 Scale Where 0= Very Poor 7 = Excellent)	**N.**	86	17	17	23	20
	Mean	3.45	3.53	3.88	3.65	3.80
	SD.	1.68	1.04	1.08	1.17	2.06
3. How Much Have You Enjoyed Doing This Writing Programme? (0-7 Scale Where 0= Not At All, 7 = A Very Great Deal)	**N.**	N.A.	N.A.	16	23	18
	Mean	N.A.	N.A.	2.63	2.04	3.61
	SD.	N.A.	N.A.	1.49	1.52	2.06

iii) Teacher questionnaire - intervention and control

Intervention participant teachers rated a number of statements at pre and post-test, while control condition teachers *only* rated the statements at post-test. The sample size and nature of the responses meant that calculating means and standard deviations would not have been informative. Consequently, the raw ratings were reported (see table 9.11, p.309).

The participant teachers rated five statements relating to the practice of the teaching of writing on a scale from 0 to 9, where 0= never, 9= always. The statement "How frequently S2 students use prewriting (drawing pictures or making notes) or planning as part of the writing process" was rated highly by both intervention English teachers at pre and post-test and a little less highly at post-test by the control English teacher. Both control and intervention Social Studies teachers gave lower ratings at post-test than the English teachers (The control teachers only gave ratings at post-test, as mentioned above). The interventions Social Studies teacher gave the lowest rating of any teacher at post-test (5).

The control and interventions English teachers rated the statement "How frequently S2 students write a draft as part of the writing process" quite highly at post-test; the interventions teachers gave the same ratings at pre-test. The interventions Social Studies teacher (i.e. the Social Studies teacher who participated in both the Social Studies and the Social Studies and English interventions) gave a lower score at pre-test than the English teachers and this reduced further at post-test (3). This rating was matched by the control Social Studies teacher.

With regard to the question, "How frequently S2 students add/remove/ rearrange/replace (revise) text as part of the writing process" high ratings were given by the control English teacher at post and the Social Studies and English intervention English teacher at pre and post-test. The English intervention English teacher's rating was quite high at pre-test but had reduced notably at post-test to just above the middle of the scale. The interventions Social Studies teacher's rating was higher than the latter's at post-test (6) although this had meant no change for that teacher's rating. The control Social Studies teacher's rating at the post-test point was low: the lowest of any of the teachers.

Table 9.11 High School Control and Intervention Conditions Teacher Questionnaire

Question	Control Social Studies Teacher		Control English Teacher		Social Studies & English Intervention English Teacher		English Intervention English Teacher		Social Studies Intervention And Social Studies & English Intervention Social Studies Teacher	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
How Frequently S2 Students Use Prewriting (Drawing Pictures Or Making Notes) Or Planning As Part Of The Writing Process (9 Being Always And 0 Being Never)	N.A.	6	N.A.	7	8	8	8	8	6	5
How Frequently S2 Students Write A Draft As Part Of The Writing Process	N.A.	3	N.A.	8	7	7	7	7	5	3
How Frequently S2 Students Add/Remove/ Rearrange/Replace (Revise) Text As Part Of The Writing Process	N.A.	2	N.A.	8	8	8	7	5	6	6
How Frequently S2 Students Check Spelling, Punctuation, Grammar, Syntax Etc. Of Their Text (Edit/Proofread) As Part Of Writing Process	N.A.	7	N.A.	7	7	8	7	7	5	7
How Frequently S2 Students Make Their Work Available To An Audience, As Part Of The Writing Process	N.A.	3	N.A.	8	8	8	6	7	3	3
Writing Is An Essential Skill For S2 Students (9 Being Strongly Agree And 0 Being Strongly Disagree)	N.A.	9	N.A.	9	9	9	9	9	5	6
My S2 Students Have The Writing Skills They Need To Do Work In My Class	N.A.	6	N.A.	8	8	7	6	8	3	7
S2 Students Have Sufficient It Access To Support Their Writing Activities	N.A.	3	N.A.	8	6	4	5	8	7	7
My Teacher Training Course Adequately Prepared Me To Teach Writing	N.A.	6	N.A.	7	6	8	7	8	2	5
I Have Received Adequate In Service Training To Teach Writing	N.A.	6	N.A.	8	7	8	8	8	4	6
I Am Effective At Teaching Writing	N.A.	5	N.A.	8	7	8	7	8	7	7
I Enjoy Teaching Writing	N.A.	4	N.A.	6	7	8	8	8	7	8
S2 Students' Writing Skills Have Improved As A Consequence Of The Programme	N.A.	N.A.	N.A.	N.A.	N.A.	2	N.A.	5	N.A.	7
I Will Use The Write Away Programme Again	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	4	N.A.	7
I Enjoyed Teaching Writing Using The Write Away Programme	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	4	N.A.	8
The Write Away Programme Has Increased My Confidence In Teaching Writing	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	4	N.A.	8

The pre-test intervention teacher ratings of the statement "How frequently S2 students check spelling, punctuation, grammar, syntax etc. of their text (edit/proofread) as part of the writing process" were quite-high to high for all except the interventions Social Studies teacher, who gave mid-range rating (see table 9.11, p.309). At post-test all the ratings were quite high or high the highest rating being from the Social Studies and English intervention English teacher, whose rating had increased slightly.

In response to the prompt "How frequently S2 students make their work available to an audience, as part of the writing process" at pre-test the Social Studies and English intervention English teacher gave a high rating, the other English intervention teacher a quite high rating but the interventions Social Studies teacher gave a quite low rating. At post-test the Social Studies and English intervention English teacher's rating remained the same, and the same rating was given by the control English teacher. The English intervention English teacher's rating increased to a quite high figure while the interventions Social Studies teacher showed no change; interestingly the control Social Studies teacher gave the same rating.

High School teacher participants also rated seven statements on writing beliefs on a scale from 0 to 9, where 0= strongly disagree, 9= strongly agree. "Writing is an essential skill for S2 students" elicited strong agreement from all the English teachers at pre and post-test. The interventions Social Studies teacher gave a mid-range rating at pre-test. This increased at post-test (6). By contrast the control Social Studies teacher agreed strongly at post-test.

The statement "My S2 students have the writing skills they need to do work in my class" was agreed with highly by the Social Studies and English intervention English teacher at pre-test but this reduced slightly at post-test. The English intervention English teacher gave a mid-range rating at pre-test but this improved to a high rating at post-test. The greatest change in ratings was the increase from a quite low to a quite high rating by the interventions Social Studies teacher. At post-test the control English teacher indicated high agreement while the control Social Studies teacher gave a more mid-range rating.

At pre-test the English intervention teachers agreed somewhat, and the interventions Social Studies teacher more so, with the statement "My S2 students have sufficient IT

access to support their writing activities". At post-test the interventions Social Studies teacher gave the same quite high rating and the English intervention English teacher agreed more so with the statement. The latter's high rating was matched by the control English teacher. However, the Social Studies and English intervention English teacher's agreement with the statement reduced at post-test to mid-range. The lowest rating was given by control Social Studies teacher who disagreed slightly with the statement.

The sentence "My teacher training course adequately prepared me to teach writing" resulted in increased ratings at post-test for all the intervention teachers (see table 9.11, p.309). There was high agreement from the English intervention teachers at post-test who had given ratings one or two points lower at pre-test. The interventions Social Studies teacher moved from slight disagreement to above the midpoint. The control English teacher indicated high agreement with the statement but the control Social Studies teacher was less enthusiastic, giving a quite high rating of 6.

The control and intervention English teachers indicated quite high or high agreement with the statement "I have received adequate in service training to teach writing" at pre and post-test. The interventions Social Studies teacher disagreed slightly at pre but agreed somewhat at post-test, as did the control Social Studies teacher.

The statement "I am effective at teaching writing" elicited the same quite high rating of agreement from all intervention teachers at pre-test. The interventions Social Studies teacher rating remained unchanged at post-test, while the English teachers of interventions ratings increased slightly to indicate high agreement. The control English teacher also reported high agreement but the control Social Studies teacher gave the lowest rating (5). Slightly increased enjoyment was suggested in the ratings of the statement "I enjoy teaching writing" by the interventions Social Studies teacher and the Social Studies and English intervention English teacher, both of whom gave the same ratings at pre (7) and post-test (8). The English intervention English teacher indicated the same high degree of agreement with the statement at pre and post-test. The control English teacher gave the lowest rating of the English teachers (6) while the control Social Studies teacher slightly disagreed with the statement.

The final four statements related to the Write Away programme itself and so only intervention teachers responded to the questions with a scale from 0 to 9, where 0= strongly disagree, 9= strongly agree (see table 9.11, p.309). The three intervention teachers gave notably different responses from each other. The Social Studies and English intervention English teacher disagreed quite strongly with the statement "S2 students' writing skills have improved as a consequence of the Write Away programme." However, the other English intervention teacher agreed slightly with the statement while the interventions Social Studies teacher agreed quite strongly that the programme had led to improvements in students' writing skills. There was a pattern across the responses for the remaining three statements: "I will use the Write Away programme again", "I enjoyed teaching writing using the Write Away programme" and "The Write Away programme has increased my confidence in teaching writing". The Social Studies and English intervention English teacher disagreed strongly, while the English intervention English teacher disagreed slightly with all the statements. By contrast, the interventions Social Studies teacher agreed quite highly that they would use the programme again. The same teacher also agreed highly that they had enjoyed using the programme and that it had increased their confidence to teach writing.

iv) Teacher questionnaire – other S2 teachers

Teachers of the S2 cohort who were not part of the intervention or control were invited to respond to the teacher questionnaire. Out of 44 teachers ten responded (22.73%). The range of responses meant that calculating means could be misleading, consequently the responses were reported raw (see table 9.12, p.313). Two Physical Education (PE) and two Science teachers responded- one adding the description "Biology", along with one each of the following: Art and Design; Craft, Design and Technology (CDT); Home Economics (HE); Languages; Maths. An additional teacher did not give their subject. The teachers rated five statements relating to the practice of the teaching of writing on a scale from 0 to 9, where 0= never, 9= always.

Table 9.12 Questionnaire Responses from Other High School Teachers

Question	Subject Taught									
	Art And Design	**Craft, Design And Technology**	**Home Economics**	**Languages**	**Maths**	**Not Given**	**Physical Education**	**Physical Education**	**Science**	**Science / Biology**
How frequently S2 students use prewriting (drawing pictures or making notes) or planning as part of the writing process 9 being Always and 0 being Never	0	5	0	8	2	0	0	0	1	8
How frequently S2 students write a draft as part of the writing process	0	1	0	8	2	0	0	0	2	6
How frequently S2 students add/remove/ rearrange/replace (revise) text as part of the writing process	3	4	2	9	2	0	0	0	5	6
How frequently S2 students check spelling, punctuation, grammar, syntax Etc. of their text (edit/proofread) as part of the writing process	4	3	3	9	2	0	0	0	5	6
How frequently S2 students make their work available to an audience, as part of the writing process	4	1	5	6	2	0	0	0	5	8

Question	Subject Taught									
	Art And Design	**Craft, Design And Technology**	**Home Economics**	**Languages**	**Maths**	**Not Given**	**Physical Education**	**Physical Education**	**Science**	**Science / Biology**
Writing is an essential skill for S2 students 9 being strongly agree and 0 being strongly disagree	9	9	9	9	9	9	7	no response	9	9
My S2 students have the writing skills they need to do work in my class	4	6	4	3	8	6	9	9	6	7
S2 students have sufficient IT access to support their writing activities	4	7	4	3	8	3	3	3	4	5
My teacher training course adequately prepared me to teach writing	4	0	2	4	0	0	1	1	1	4
I have received adequate In Service training to teach writing	4	0	2	3	2	1	0	2	1	6
I am effective at teaching writing	5	5	6	7	2	"n/a"	1	2	4	6
I enjoy teaching writing	4	3	5	9	2	"n/a"	2	5	4	8

The questions “How frequently S2 students use prewriting (drawing pictures or making notes) or planning as part of the writing process” and “How frequently S2 students write a draft as part of the writing process” were given the rating “never” by the PE, HE, Art & Design and Not Given teachers (see table 9.12, p.313). Low ratings were given by the Maths and Science teacher but the Science-Biology teacher gave a high rating for planning and a quite high rating for drafting. The CDT teacher gave a midrange rating for planning but a low range for drafting while the Languages teacher gave a high rating for both statements.

The questions “How frequently S2 students add/remove/ rearrange/replace (revise) text as part of the writing process” and “How frequently S2 students check spelling, punctuation, grammar, syntax etc. of their text (edit/proofread) as part of the writing process” were responded to in similar ways. The PE teachers and Not Given teacher gave ratings of “never” while the Maths and HE teacher gave quite low ratings for both. The Art and the CDT teachers gave quite low or below midpoint ratings for both questions. The Science teacher gave midrange ratings for both (5) while the Science Biology teacher gave quite high ratings for both. The Languages teacher reported using both practices “always”. “How frequently S2 students make their work available to an audience, as part of the writing process” was reportedly “never” for the PE teachers and the Not Given teacher. The CDT and Maths teacher gave low or quite low ratings, while the Art, HE and Science teachers gave mid-range ratings. The Languages teacher gave a quite high rating but the highest rating was by the Science Biology teacher (8).

Teacher participants also rated seven statements on writing beliefs on a scale from 0 to 9, where 0= strongly disagree, 9= strongly agree. The teachers all strongly agreed that “Writing is an essential skill for S2 students” with the exception of the PE teachers: one of whom gave a quite high rating while the other chose not to respond. The lowest rating given to the statement “My S2 students have the writing skills they need to do work in my class” was given by the Languages teacher (3). The Art and HE teachers gave midrange responses while the CDT, Not Given, and both Science teachers agreed quite highly with the statement. There was strong agreement from the Maths, and PE teachers that the students had the writing skills they required to do the work in their classes.

There was quite low agreement with the statement "My S2 students have sufficient IT access to support their writing activities" from the Languages, PE and Not Given teachers (see table 9.12, p.313). Mid-range ratings were given by the Art, HE and Science teachers and high or quite high ratings by the Maths and CDT teachers.

The statement "My teacher training course adequately prepared me to teach writing" was strongly disagreed with by the CDT, Maths, PE, Not Given teachers and the Science teacher. A quite low rating was given by the HE teacher and the Art, Science-Biology and Languages teachers gave mid-range ratings, albeit below the midpoint. No teacher gave a rating indicting more agreement than disagreement. "I have received adequate in service training to teach writing" was strongly disagreed with by the CDT, Not Given and one PE Teacher and the Science teacher. Quite low ratings were given by the HE, Languages, Maths teachers and one PE teacher. Slight disagreement was indicated by the Art teacher. By contrast, the Science-Biology teacher gave a quite high rating to the statement.

The responses to the final two statements by the Not Given teacher were "n/a". The statement "I am effective at teaching writing" was strongly disagreed with by one PE teacher. The other PE teacher and the Maths teacher gave quite low ratings, while mid-range ratings were noted by the Art, CDT, and a Science teacher. Quite high agreement with the statement was the response from the HE, Languages and Science-Biology teachers. The statement "I enjoy teaching writing" resulted in quite low ratings from the CDT, Maths teachers and one PE teacher. Mid-range ratings were given by a PE and the Science-Biology teacher and the Art and HE teachers. Strong agreement with the statement was indicated by the Languages teacher and the Science-Biology teacher.

v) Summary of teacher questionnaires

The control and intervention English teachers gave high or quite high ratings for the frequency that S2 students used prewriting/planning, drafting, revision, editing/proofreading and making work available to an audience (publishing) at pre and post-test. When asked at post-test, the Languages and Science-Biology teachers also gave high ratings, while the Maths, Not Given, PE and HE teachers generally gave low or quite low ratings. Low ratings for prewriting/planning and drafting were also given by the Art and the Science teacher. The control and intervention Social Studies teachers

had quite low ratings for drafting and publishing and mid to high ratings for the other process elements, although there was a notable difference for revision: the control teacher gave a low rating. The interventions Social Studies teacher had ratings notably increased for edit/proofread and decreased for drafting at post-test while the English intervention teacher markedly reduced the revision rating.

With the exception of one PE teacher and the interventions Social Studies teacher there was strong agreement that writing was an essential skill for S2 students. These two still gave quite high ratings. There was quite high to high agreement that S2 students had the writing skills they needed to do the work in class from the control and interventions teachers, but for the interventions Social Studies teacher this had meant a marked increase from pre-test. The PE teachers gave the highest ratings; quite high to high ratings being given by all the other teachers excepting Art, HE and Languages: these had given ratings below the midpoint. Quite high to high ratings of sufficiency of IT access to support writing were given by the CDT, Maths, control English, interventions Social Studies and English intervention English teachers. By contrast quite low or below the midpoint ratings were given by most other teachers. The Social Studies and English intervention English teacher had a markedly reduced rating of IT sufficiency at post-test.

The teachers who felt their training course had best prepared them to teach writing were the English interventions teachers, followed by the control Social Studies teacher. The only other rating above the midpoint was by the interventions Social Studies teacher, with low to quite low ratings given by most of the others. Regarding the adequacy of In Service training to teach writing the English teachers again had the highest ratings, the interventions Social Studies teacher gave an improved quite high rating at post-test and the control Social studies teacher gave a rating above the midpoint. All other teachers except one gave ratings below the midpoint, most being low or quite low. The English teachers gave high teacher efficacy for writing ratings with most others giving quite high or above midpoint ratings, the lowest ratings were by the PE and Maths teachers. The maximum rating for enjoyment of teaching writing came from the Languages teacher, followed by the high ratings of the English intervention, Science – Biology, and interventions Social Studies teachers- the latter showing an increase at post-test. The HE and one PE teacher were the only others to give ratings above the midpoint; notably quite low ratings being given by the CDT, Maths and other PE teachers.

The questions relating to the programme resulted in a variety of responses. The Social Studies and English intervention English teacher in the combined programme felt quite strongly that students' writing skills had not improved. They also strongly felt that they did not enjoy using the programme, it had not increased their confidence and they would not be using the programme again. The English intervention English teacher felt the programme had led to slight improvements in students' writing skills but disagreed slightly with statements regarding their enjoyment of the programme, whether it had increased their confidence and if they would use the programme again. In contrast, the interventions Social Studies teacher felt strongly that they had enjoyed the programme and it had increased their confidence in teaching writing. They also felt quite strongly that student's writing skills had improved and that they would use the programme again.

9.2.2.2 Inferential analysis - probabilities

i) Writing assessment

Writing assessment mean scores at pre and post-test were analysed using Student's related unequal variance t-tests for the intervention and control conditions (see table 9.13, p.319). The control condition mean Plan Word Count was significantly lower post-test ($p<.01$). For the Social Studies intervention the Word Count and Plan Word Count means were both significantly lower post-test ($p<.01$ and $p=.02$ respectively). There were also significant improvements in Opening, Body, Transitions, Language and Writing Quality mean scores at post-test (all $p<.01$). The Social Studies and English intervention resulted in significant increases in mean scores post-test for Opening, Body, Language and Writing Quality. The English intervention at post-test showed improvements in mean scores for Language ($p=.04$), Body and Conclusion (both $p=.02$) and Opening and Writing Quality (both $p<.01$).

In addition, writing assessment mean scores were analysed using Student's unrelated unequal variance t-tests comparing intervention and control conditions at pre and post-test (see table 9.14, p.320).

Table 9.13 Probabilities on Student's Related Unequal Variance T-Tests of Pre-post Average Scores in Intervention and Control Conditions

	Word Count	**Plan Word Count**	**Opening**	**Body**	**Conclusion**	**Conventions**	**Transitions**	**Language**	**Writing Quality (Total Score)**
Control	0.06	***0.01**	0.33	0.72	0.72	0.67	0.17	0.50	1.00
Social Studies Intervention	***0.01**	**0.02**	***0.01**	***0.01**	0.65	0.72	***0.01**	***0.01**	***0.01**
Social Studies & English Intervention	0.42	0.21	***0.01**	***0.01**	0.21	0.27	0.07	**0.02**	***0.01**
English Intervention	0.06	0.15	***0.01**	**0.02**	**0.02**	0.19	0.23	**0.04**	***0.01**

*The actual figure was smaller than this.

Table 9.14 Probabilities on Student's Unrelated Unequal Variance T-Tests of Average Scores on Intervention and Control Conditions

Comparison	Word Count		Plan Word Count		Opening		Body		Conclusion		Conventions		Transitions		Language		Writing Quality (Total Score)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Social Studies Intervention vs. Control	0.24	0.27	0.80	0.33	0.10	**0.03**	0.20	***0.01**	0.10	0.24	0.54	0.55	0.33	0.21	0.62	0.25	0.15	0.06
Social Studies & English Intervention vs. Control	0.71	0.33	0.76	***0.01**	0.65	***0.01**	0.84	***0.01**	0.23	0.88	0.29	0.20	0.57	0.61	0.75	0.09	0.87	****0.01**
English Intervention vs. Control	0.13	**0.04**	0.15	0.33	***0.01**	0.90	0.19	***0.01**	***0.01**	****0.01**	***0.01**	***0.01**	0.34	0.18	0.35	0.97	***0.01**	0.33
Social Studies Intervention vs. Social Studies & English Intervention	0.42	***0.05**	0.55	***0.01**	0.17	0.84	0.22	0.08	0.45	0.26	**0.05	***0.05**	0.47	0.07	0.31	0.55	0.11	0.90

Comparison	Word Count		Plan Word Count		Opening		Body		Conclusion		Conventions		Transitions		Language		Writing Quality (Total Score)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Social Studies Intervention vs. English Intervention	****0.01**	0.38	0.20	0.75	0.16	****0.01**	0.89	***0.05**	0.06	0.31	***0.01**	**0.03**	0.94	***0.01**	0.56	0.17	0.11	***0.01**
Social Studies & English Intervention vs. English Intervention	0.07	***0.01**	0.07	**0.02**	***0.01**	***0.01**	0.20	0.91	***0.01**	****0.01**	***0.01**	***0.01**	0.48	0.38	0.15	***0.05**	***0.01**	***0.01**

*The actual figure was smaller than this. ** The actual figure was bigger than this.

Social Studies intervention mean scores were significantly higher than Control mean scores at post-test for Opening ($p=.03$) and Body ($p<.01$) (see table 9.14, p.320). A comparison of Social Studies and English intervention and control means revealed that at post-test the mean Plan Word Count and Opening and Body mean scores were all significantly higher for the intervention condition (all $p<.01$). The Social Studies and English intervention also resulted in a significantly higher mean score for Writing Quality at post-test ($p<.05$, $p>.01$) than the control. The mean English intervention scores were significantly lower than the control at pre-test for Opening, Conclusion, Conventions and Writing Quality (all $p<.01$). They were also significantly lower at post-test for Word Count ($p=.04$), Conclusion ($p<.05$, $p>.01$) and Conventions ($p<.01$) but significantly higher for Body ($p<.01$). The Social Studies intervention at post-test had a mean Word Count ($p<.05$), mean Plan Word Count ($p<.01$) and mean Conventions score ($p<.05$) that was significantly lower than for the Social Studies and English intervention. The Social Studies intervention means were also significantly higher than the English intervention at pre-test for Word Count ($p=.01$) and Conventions ($p<.01$). They were also significantly higher at post-test than the English intervention for Opening ($p=.01$), Body ($p<.05$), Conventions ($p=.03$), Transitions and Writing Quality (both $p<.01$). The Social Studies and English intervention means were significantly higher than for the English intervention at pre-test for Opening, Conclusion, Conventions and Writing Quality (all $p<.01$). They were also significantly higher at post-test for Word Count, Opening, Conventions and Writing Quality (all $p<.01$) as well as being significantly higher for Plan Word Count ($p=.02$), Conclusion ($p=.01$) and Language ($p<.05$).

ii) Student questionnaire

Student responses from the intervention and control conditions to the student questionnaire at post-test were compared with a theoretical distribution of equal values and analysed using the Chi-square test (see table 9.15, p.323). The distribution of student responses to the question “How much do you enjoy writing?” on a scale from 0 to 7, where 0= “not at all” and 7= “a very great deal” were significantly different from a theoretical distribution of equal values for the Social Studies intervention ($p=.03$), the Social Studies and English intervention ($p=.02$) and the English intervention ($p=.03$).

Table 9.15 Probabilities and Chi Values on $\chi 2$ Test of Intervention and Control Conditions Post Student Questionnaire Compared with a Theoretical Distribution of Equal Values for each Category. All DF=7.

	1. How Much Do You Enjoy Writing? (0-7 Scale Where 0 = Not At All, 7 = A Very Great Deal)			**2. How Good Are You At Extended Writing Compared With Other Students In Your Class? (0-7 Scale Where 0= Very Poor 7 = Excellent)**			**3. How Much Have You Enjoyed Doing This Writing Programme? (0-7 Scale Where 0= Not At All, 7 = A Very Great Deal)**		
Comparison	**Chi Value**	**P**	**N**	**Chi Value**	**P**	**N**	**Chi Value**	**P**	**N**
Control vs. Theoretical Distribution Of Equal Values	12.65	0.08	17	33.35	***0.01**	17	N.A.	N.A.	N.A.
Social Studies Intervention vs. Theoretical Distribution Of Equal Values	15.47	**0.03**	17	25.82	***0.01**	17	10.00	0.19	16
Social Studies & English Intervention vs. Theoretical Distribution Of Equal Values	16.30	**0.02**	23	29.52	***0.01**	23	12.13	0.10	23
English Intervention vs. Theoretical Distribution Of Equal Values	15.20	**0.03**	20	7.20	0.41	20	10.44	0.16	18

*The actual figure was lower than this.

** The actual figure was higher than this.

With regard to the question "How good are you at extended writing compared with other students in your class?" on a rating scale from 0 to 7, where 0= "very poor" and 7= "excellent" the distribution of student responses were significantly different from a theoretical distribution of equal values for the control, the Social Studies intervention, and the Social Studies and English intervention (all $p<.01$) (see table 9.15). The distribution of intervention condition student responses to the question "How much

have you enjoyed doing this writing programme?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal" were not significantly different from a theoretical distribution of equal values.

Table 9.16 Probabilities and U Values on Mann-Whitney Test of Intervention and Control Conditions Post Student Questionnaire

	1. How Much Do You Enjoy Writing? (0-7 Scale Where 0 = Not At All, 7 = A Very Great Deal)			**2. How Good Are You At Extended Writing Compared With Other Students In Your Class? (0-7 Scale Where 0= Very Poor 7 = Excellent)**			**3. How Much Have You Enjoyed Doing This Writing Programme? (0-7 Scale Where 0= Not At All, 7 = A Very Great Deal)**		
Comparison	**U Value**	**P**	**N**	**U Value**	**P**	**N**	**U Value**	**P**	**N**
Social Studies Intervention vs. Control	129.00	0.60	17,17	112.50	0.28	17,17	N.A.	N.A.	N.A.
Social Studies & English Intervention vs. Control	179.50	0.67	23,17	175.50	0.60	23,17	N.A.	N.A.	N.A.
English Intervention vs. Control	149.50	0.54	20,17	139.50	0.36	20,17	N.A.	N.A.	N.A.
Social Studies Intervention vs. Social Studies & English Intervention	161.00	0.35	17,23	175.00	0.58	17,23	142.50	0.24	16,23
Social Studies Intervention vs. English Intervention	166.00	0.91	17,20	160.50	0.79	17,20	100.00	0.13	16,18
Social Studies & English Intervention vs. English Intervention	184.50	0.27	23,20	201.00	0.49	23,20	113.50	****0.01**	23,18

*The actual figure was lower than this.

** The actual figure was higher than this.

In addition, student responses to the post-test questionnaire were analysed using the Mann-Whitney test for comparisons between the interventions and the control and between the different interventions (see table 9.16, p.324). One result was statistically significant. The Social Studies and English intervention students' responses to the question "How much have you enjoyed doing this writing programme?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal" were significantly different from the English intervention students' responses (p=.01). The mean ratings were lower for the Social Studies and English intervention students than the English intervention students (see table 9.10, p.307).

9.2.2.3 Effect sizes

i) Writing assessment

Effect sizes comparing post-test and pre-test were calculated for all four conditions (see table 9.17, p.326). Cohen's descriptors were used to compare effect sizes, where d = 0.20 is small, d = 0.5 is moderate and d = 0.8 is large (Cohen and Manion (1997)). The additional descriptor of very small was added by the author for effects < 0.20 but > 0.09.

For the control group there was a small negative effect size for the Word Count and a large negative effect size for Plan Word Count. A small negative effect size was seen for the Opening mean score and very small negative effect sizes for Body and Conclusion. There was a small positive effect size for Transitions and a very small positive effect size for Language. There was no effect upon Writing Quality (ES=0.00).

The effect sizes of the Social Studies intervention were large and negative for Word Count and Plan Word Count. There were large positive effect sizes for Opening, Body, Transitions and Writing Quality. There was a moderate positive effect size for Language and a very small positive effect size for Conclusion mean scores.

The Social Studies and English intervention resulted in small negative effect sizes for Word Count and Plan Word Count. There were large positive effect sizes for Opening and Writing Quality and a moderate positive effect size for Body. Small positive effects

were seen for Conclusion, Transitions and Language and a very small positive effect for Conventions.

Table 9.17 Effect Sizes for High School Intervention and Control Conditions

	Effect Size Control Post-test vs. Pre-test	**Effect Size Social Studies Intervention Post-test vs. Pre-test**	**Effect Size Social Studies & English Intervention Post-test vs. Pre-test**	**Effect Size English Intervention Post-test vs. Pre-test**
Word Count	-0.39	-1.25	-0.21	-0.53
Plan Word Count	-1.20	-1.02	-0.34	-0.46
Opening	-0.29	0.92	0.82	0.68
Body	-0.15	0.88	0.72	0.43
Conclusion	-0.10	0.11	0.22	0.37
Conventions	0.07	0.05	0.14	0.13
Transitions	0.41	0.95	0.39	0.28
Language	0.19	0.61	0.48	0.40
Writing Quality (Total Score)	0.00	1.37	1.20	0.87

The English intervention resulted in negative effect sizes for Word Count (moderate) and Plan Word Count (small). A large positive effect size was evident for Writing Quality and a moderate positive effect size for Opening. Small positive effects were also produced for Body, Conclusion, Transitions, and Language. There was a very small positive effect upon Conventions.

ii) Student questionnaire

Effect sizes were calculated for post versus pre-test for the four conditions for student responses to the questionnaire (see table 9.18, p.327). The effect size for the question: "How much do you enjoy writing?" on a scale from 0 to 7, where 0= "not at all" and 7= "a very great deal" was negligible for the control group. There was a small negative effect for the Social Studies intervention and the English intervention students. A very small positive effect was seen for the Social Studies and English intervention.

For the control students there was a negligible effect for the question: "How good are you at extended writing compared with other students in your class?" For the intervention students the Social Studies intervention had a small positive effect and the

English intervention and Social Studies and English intervention both had very small positive effects.

Table 9.18 Effect Sizes for High School Intervention and Control Conditions Student Questionnaire

	Effect Size Control Post-test vs. Pre-test Population	**Effect Size Social Studies Intervention Post-test vs. Pre-test Population**	**Effect Size Social Studies & English Intervention Post-test vs. Pre-test Population**	**Effect Size English Intervention Post-test vs. Pre-test Population**
1. How Much Do You Enjoy Writing? (0-7 Scale Where 0 = Not At All, 7 = A Very Great Deal)	0.08	-0.20	0.11	-0.22
2. How Good Are You At Extended Writing Compared With Other Students In Your Class? (0-7 Scale Where 0= Very Poor 7 = Excellent)	0.05	0.30	0.14	0.18

9.2.3 Qualitative Data

9.2.3.1 Student questionnaire comments

i) Control group

Out of 17 students in the control group two made comments. They both remarked that they did not like it and could not see the point in the study. One noted, "I didn't like writing an essay before and after about a topic I knew nothing about and didn't care about…"

ii) Social studies intervention

Comments were made by ten of the 17 Social Studies intervention students. These were collated and put into themes (see table 9.19, p.328).

Table 9.19 Social Studies Intervention Students' Themed Responses to an Open-ended Question Inviting Comments

Themes	**Frequency**
Effectiveness Of The Programme	5
Enjoyment	4
Changing Classes	2
Writing Assessment Task	2
Length Of Intervention	2
Interruption	1

a. Effectiveness of the programme

Reference to the effectiveness of the programme was made by five Social Studies intervention students. Two students remarked upon improvements: one stated, "I feel like I've developed my skills", another noted, "…it has improved my writing quite a lot." Another student remarked simply, "slightly helpful". However, one student felt that "writing more helps but we are not learning any new stuff…" and another commented that the programme "didn't help me and in my opinion made me worse."

b. Enjoyment

Two students made positive comments regarding enjoyment of the programme: opining, "I think it has been fun doing this because it is a new experience," and "I did enjoy the work that we did…" Two students took a differing view. One found it "boring" and another "didn't really enjoy it…"

c. Changing classes

One student "enjoyed going to a new English teacher…" but another complained, "I don't see why we had to move classes to do this…" although the student went on to note the benefit upon writing.

d. Writing assessment task

Two students found the writing task essays hard in terms of content. Both made reference to Task A (phoning and texting), one writing, "Task A was quite hard to think up an answer to."

e. Length of intervention

One student felt the intervention "went on too long." However, another commented, "I would have liked a bit more time than six weeks."

f. Interruption

One student complained a little about the interruption: "It was okay but kind of annoying as we had to interrupt what we were doing in our old class just to be used as an experiment for this writing programme. I did enjoy the work that we did however in our class." No further comments were made regarding the interruption by the students.

iii) Social studies and English intervention

The highest response to this question was from students in the Social Studies and English Intervention group: twenty-two out of twenty-three made comments. These were collated and put into themes (see table 9.20)

a. Lack of utility of programme

Eight Social Studies and English intervention student respondents made remarks about the ineffectiveness of the programme. Four used the term "pointless" while two described it as a "waste of time". One felt it did not improve the writing while another felt it 'didn't really help…"

Table 9.20 Social Studies and English Intervention Students' Themed Responses to an Open-ended Question Inviting Comments

Themes	**Frequency**
Lack of utility of programme	8
Lack of enjoyment	8
Too complicated	7
Process too long	6
Dislike planning /planning method	4
Dislike eraser use prevention	2
Not do it again	2
Prefer previous methods	2

b. Lack of enjoyment

Comments were made by eight students about not enjoying the intervention. One described it as “boring” and another remarked, “It was OK. It was quite boring…”

c. Too complicated

Seven students stated the intervention was complicated, six of whom used that word. One remarked, “I think it overcomplicated writing essays.” Another found it could be “confusing at times”.

d. Process too long

Six students commented that the Write Away process “took too long” or “dragged out”. A student opined, “…it made a one day essay into three weeks.”

e. Dislike planning/planning method

Four students mentioned planning. Three criticised the way of planning in the intervention. One stated, “I personally don't like planning and writing this way.” Another remarked, “I didn't like the whole planning concept with GRIST and TROD as it threw my train of thought off and it wastes time and changes my original ideas too many times.” Another student observed, “I really don’t like planning writing assessments.”

f. Dislike eraser use prevention

Two students did not like being prevented from using an eraser.

g. Not do it again

Two students commented on future use. One noted, “…I don’t think I’ll be using it again” and another declared, “I don’t think another year should do it.”

h. Prefer previous methods

Two students preferred their previous way of working. One remarked, “I prefer and am much more comfortable with methods I had been taught before.” Another noted, “I prefer the method I'm used to.”

i. English intervention

Out of twenty English intervention student questionnaire respondents three made comments. Two remarked that they had enjoyed it, one stating, “I enjoyed being part of it.” The third also made a positive comment in relation to an essay they had written, “My best and favourite essay was the second essay because I liked the idea of it.”

9.2.3.2 High school teacher questionnaire

The teachers involved with the four conditions were invited to comment in the questionnaire. The English Teacher of the Control group pointed out the disruptive aspects of conducting research in a school, “The programme caused considerable upheaval and I'm therefore keen to see the results of it. I'm interested to see the feedback given to pupils as well; as I feel that they have a stake in this now and deserve to have findings shared with them.” The Social Studies teacher for Social Studies and Social Studies and English conditions felt the summer term timing had an impact: “A little earlier in the year would have been more effective.” The English teacher from the Social Studies and English intervention was more critical: “I felt that the methodology I was asked to use was less effective than the methods I and my colleagues have developed over many years of thought, experience and reflection. "TROD", "GRIST" etc. added nothing and the learning process was diminished by the requirement to follow such a mechanistic, artificial process.” The English teacher from the English only intervention made no comment.

Ten teachers out of 44 with contact with S2 students at the High School responded to the questionnaire (22.73%). Two made comments when invited to. A Physical Education Teacher observed, “I'm not sure this applied to me.” An Art and Design teacher stated, “In Art and Design we are interested in KU content and opinion in written work. We usually use discussion / Q + A to prep for written work, which is

usually a worksheet. Pupils are expected to answer in full sentences/paragraphs. We also do spoken tasks e.g. pitch ideas/design solutions to "clients".”

9.2.3.3 High school focus group

The three teachers involved in delivering the intervention were invited to a post-test focus group using seven questions (see appendix 7.9). The English teacher from the Social Studies and English Intervention declined the invitation but the other two attended. The Depute Rector and Principal Teacher (English) who had been involved in the project offered to attend as well. The responses were collated into themes.

i) Effects on writing skills

The Social Subjects teacher reported a positive effect on writing skills but felt some benefited more than others: “it’s about ability I think kids who were able and confident writers took things on board a bit more. Again maybe at the lower end, I can feel it’s probably not gonna stick. The upper middle will be thinking a little bit more. The lower middle are not ready in S2 to make them choices….tend to want to get things done…boom, done, next.” By contrast the Principal Teacher (English) remarked, “Anecdotally some of the feedback that wasn’t so positive was from the more able.”

The English teacher reported there had been no impact upon writing “in a measurable way as a direct result of the programme.” The teacher felt that group had a large number of students who “struggle with paragraphing and neat handwriting never mind sentence construction and higher order skills.” Although they went on to say that “hopefully things have gone in that will emerge later on as an influence on their writing”.

ii) Effects on social subjects skills

The Social Subjects teacher noted that the intervention was “a good way not only to improve their writing skills but to stretch their understanding of the actual subject itself.” The teacher explained, “We took questions they already had a little knowledge on and I think that they had the knowledge and understanding on that and the ones who were more able stretched themselves a bit more, made better links between things in

history rather than just knowing and understanding the history. Take for example the use of propaganda, they had a good embedded knowledge of propaganda as a tool…They were looking more deeply in this idea of propaganda." It seemed to be helpful to do "such narrow focusing".

iii) Working across faculties

The benefits of working across subject areas were raised. The English teacher commented, "I think it's good that we're across two or three different subjects…speaking the same language and using the same ideas…." The Depute Rector noted the benefit of "a commonality of approach."

iv) English specialist involvement

The Principal Teacher (English) remarked, "Had it been then another subject that doesn't teach so much writing, probably introducing this would have been a lot more straightforward. I think maybe we found it quite alien because we've taught writing for so long or the kids found the processes different..." This teacher also felt that having being based on writing tasks required for Social Subjects the programme required "…writing in a different context than we would normally do in English."

v) Non-English specialist involvement

The Social Studies teacher said "a lot of that stuff for non-English teachers was very useful." The teacher went on, "…it kind of made me look a little bit more focused on the actual writing task as an island itself which can help with the other tasks we have to do in our subject area as well. So it might have refined my own focus on writing rather than just grooved it up." The Depute Rector also commented on the benefit for non-specialists, "The accessibility of it there was something in, whether grist and trod, there was something in having it broken down for the non-specialists that allowed us to access that."

vi) Confidence

The Social Studies teacher believed there had been a "positive effect" on their confidence to teach writing. The teacher noted they had been "sort of stretching myself in the specific area of writing." The English teacher stated, "I would obviously have felt confident teaching writing before."

vii) Interruptions

The Social Studies teacher pointed out that, particularly for those who only had three weeks of the intervention in that subject, the delivery was "was kinda choppy in terms of whole school events. I gotta bring that up. We had a tiny bit of disruption. But we made it through. Cos we also had the profiling. It was a bit disconcerted. Higher ups did not lose as much focus as the lower downs."

viii) Mnemonics

The choice of words for the mnemonics was raised by the English teacher: "they didn't know what grist and trod meant in the first place." The PT English also reported, "A few kids told me that they found the mnemonics quite a challenge."

ix) Duration and completion

The Principal Teacher (English) wondered if there might have been more impact if the project were longer. The English teacher found it difficult to work through the materials. It was reported that by the fourth week the students were still working on the first essay. The English teacher also stated that by the end of the intervention "a lot of my kids hadn't finished the second essay." The Social Studies teacher felt a break in the middle would have been helpful, commenting, "My lot could have had a good week off and been more capable, even the good ones."

x) Timing

The timing of the intervention in summer term meant that there were some Social Studies students who were less motivated. The Social Studies teacher explained this

was because “some of them are thinking I’m not gonna do social subjects (*next year*) I’m not going to be doing this.” (Italics added).

xi) Writing assessment tasks

The nature of the writing measures was raised by the English teacher who observed that there was “a dichotomy between the writing assessment tasks and what we would normally be doing in English, which was giving them lots of time to research.” The PT English reported that ““some pupils were quite upset by the idea that we wouldn’t be talking it through, we wouldn’t be helping them plan, there wouldn’t be a class brainstorm like we normally do in English.” The PT English also felt the tests might not have reflected what the students had learnt, “I think for this second assessment maybe it’s the whole kids applying the skills they’ve been taught on their own and that’s just teaching. We teach them for years and years to do writing and you say to them here’s a test and they don’t apply what they’ve been taught.”

xii) No adverse consequences

The Social Studies Teacher and the English Teacher agreed there had been no adverse consequences. The English teacher expanded, “the fact they were changed into different sets was an advantage for some kids points of view, they liked the novelty, some did not like that but I wouldn’t say it was adverse.”

xiii) Future usage

The Social Studies Teacher reported that they would be “certainly” using aspects of the programme again and that “I’d like to see my next set of second years and do a little of the same and see from my own perspective…” The English teacher reported, “There’s lots of principles there that we would already be using in English, which I will continue to use like looking at the work, re reading it and revising it.” The same teacher declared “the worksheet with the different stages highlighted would be a good thing if the kids were going home to do their homework and needed a reminder.” The Social Studies teacher thought there would be “a benefit of two faculties using this as a measurable part of a joint teaching project... as long as we agree that this is happening at this time for each faculty, each involved area. I think the kids will buy into it as well, because

they'll know that everything's pre-planned... if you are going from let's say History to English and English to Health and Wellbeing and that focus is a round robin focus and they're coming back to you again bringing something with them every time." The PT English felt that the "staged process would be really useful in other areas" and the Depute Rector reported that the two of them "have had conversations about picking the best bits and using it in terms of a programme of work and a way of working and using that going forward to link between different areas, and not just in writing either we could look to doing something similar across reading and talking and listening eventually as well..."

Chapter 10: Discussion

In this chapter, the research questions and the summary of the findings will be given, followed by the strengths and weaknesses of the current study. The links to previous literature will be discussed, then the implications for practice, policy and future research considered. Finally, the conclusions will be stated.

10.1 Research Questions

The research questions which this study investigated were:

- *What view do elementary and high school teachers in a Local Authority in Southern Scotland have of current practice in writing instruction and of a range of evidence-based approaches?*

- *Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 9 years 6 months to 10 years 6 months at the start of the school year in August in Primary 6 (P6; broadly equivalent to 5th Grade) in two elementary schools in Southern Scotland?*

- *Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?*

- *How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?*

10.2 Summary of Findings

10.2.1 Survey

The response to the anonymous online survey of teachers in the Local Authority in Southern Scotland was low (overall response rate =23%; n= 345(see table 5.1, p.137)) but the minimum returned sample sizes for an alpha level of .05 were achieved (Barlett, Kotrlik and Higgins, 2001). The most frequently used writing practice was grammar instruction: it was used at least weekly by 54.5% of respondents (see table 6.1, p.209). This was concerning because the negative impact upon writing for mainstream students has been demonstrated in the literature (Graham et al., 2012; Graham and Perin, 2007). Writing practices which did have an evidence-base were used on average at least several times a year by 79.4% of teachers. Some teachers used evidence based practices much more than others. Around two-thirds of teachers used writing strategy instruction at least monthly. Summarisation was most frequently taught several times a year. The most widespread collaborative approach was student evaluation of each other's work; 76.9% used this at least monthly. Structured co-operative learning approaches were used at least monthly by 45% of teachers although 18.4% never used them. Adult feedback when assessing writing was provided at least weekly by 52.1%, and at least monthly by 77.4%, of teachers. Product and process goals were used at least weekly by around a third and at least monthly by around two-thirds of respondents. They were never used by 24.0% and 19.8% of teachers respectively. One of the least frequently used practices was the teaching of self-regulation: 29.1% never did it. Drafting, revising and publishing were not as frequently used in the writing process as editing and planning (see table 6.2, p.211). The practice reportedly used the least was drafting, shortly followed by revising. Yet, according to the literature, revision is significantly associated with writing quality (Fidalgo et al., 2008; Zhang, 2001). More of an emphasis on spelling, punctuation and grammar was being made rather than the actual quality of the writing.

Around 40% of elementary and high school teachers believed that students had insufficient IT available to them: most teachers would provide more IT to support writing if a range of barriers were removed (see table 6.4, p.212). Few teachers allowed students to use their own devices in class (7.8% -17.4%, dependent upon type, see table 5.8, p.170) despite this being a potential way of increasing the IT available in class.

Although this was in line with the Local Authority position at the time of the survey, namely, that pupils could not be supported in bringing in their own devices to use in school. A need for IT training was identified by 65.4% of elementary teachers and 49.5% of high school teachers (see table 6.4, p.212).

Practically all the teachers agreed that writing was an essential skill (98.6%) (see table 6.5, p.214). Most elementary (86.2%) and high school (60.5%) teachers agreed to some extent that students had the writing skills they needed in their classes although a notable minority of high school teachers disagreed (22.9%).

A little under a third of both elementary teachers and high school teachers with English degrees felt that Initial Teacher Education had not adequately prepared them to teach writing; for high school teachers without English degrees this rose to 58.8% (see table 6.5, p.214). More teachers felt the In-Service training they had received had prepared them to teach writing than had been the case for the actual teacher training courses. Despite this, 60.8% of high school teachers without English in their degrees still felt their In-Service had not adequately prepared them to teach writing.

All the high school teachers with English degrees, and over 90% of elementary teachers, agreed that they enjoyed, and were effective at, teaching writing (see table 6.5, p.214). However, less than half of high school teachers without English degrees reported they enjoyed, and were effective at, teaching writing.

10.2.2 Elementary Intervention

Pre- and post-test writing samples from the intervention and control classes were assessed using the rubric developed during the study (see appendix 7.1). This evaluated the Opening, Body, Conclusion, Conventions, Transitions and Language of the texts. These scores were aggregated to form the Writing Quality score. The mean scores were analysed using Student's unrelated unequal variance t-tests comparing intervention and control conditions at pre and post-test (see table 9.5, p.287). The Eastfield intervention mean Conclusion score ($p=.04$) and Plan Word Count ($p<.01$) were significantly higher at pre-test than Eastfield Control. Conversely, the Westfield intervention Plan Word Count was significantly lower at pre-test than the Westfield Control ($p<.01$). Moreover, the Eastfield intervention means were significantly higher than the Westfield

intervention at pre-test for Plan Word Count, Opening, Body, Transitions, Language and Writing Quality (all $p<.01$) so the two intervention classes were not starting with equivalent writing skills as assessed using the rubric.

Cohen's descriptors were used to compare effect sizes, where $d = 0.20$ is small, $d = 0.5$ is moderate and $d = 0.8$ is large (Cohen and Manion (1997)). The additional descriptor of very small was added by the author for effects < 0.20 but > 0.09. Effect sizes comparing post-test and pre-test were calculated for all four conditions (see table 9.6, p.291). The Eastfield and Westfield interventions both had large positive effect sizes for Plan Word Count, Opening, Body, Conclusion, Transitions, Language and Writing Quality. The Westfield intervention also had a large positive effect size for Conventions, whereas the Eastfield intervention had a small positive effect size. The greatest effect sizes were those for Writing Quality for both the Eastfield intervention (ES=2.89) and the Westfield intervention (ES=2.70). In addition, the Westfield intervention had a small negative effect size for Word Count. By way of contrast, the control conditions had markedly less of an effect. The Eastfield control had small positive effect sizes for Transitions, Conclusion and Writing Quality, and very small positive effect sizes for Body and Language. There was a moderate negative effect size for Plan Word Count and a very small negative effect size for Word Count. The Westfield control had small positive effect sizes for Word Count and Plan Word Count, a small negative effect size for Opening and a very small negative effect size for Transitions. The Writing Quality effect size was negligible and negative.

Effect sizes were also calculated using just post-test means of the control and intervention conditions (see table 9.6, p.291). The Eastfield intervention had large positive effect sizes for Plan Word Count, Opening, Conclusion Transitions, Language, and Writing Quality, although Plan Word Count and Conclusion had been significantly higher at pre-test. There was a moderate positive effect size for Word Count and Body but a small negative effect size for Conventions. The Westfield intervention resulted in large positive effect sizes for Plan Word Count (despite being significantly lower at pre-test), Opening, Body, Conclusion, Transitions, Language and Writing quality. There was a moderate positive effect size for Conventions and a large negative effect size for Word Count.

The comparison of pupil questionnaire mean responses at pre and post-test resulted in negative effect sizes for all conditions for enjoyment of writing (see table 9.7, p.292), although the intervention ratings reduced less than the control. Both control conditions resulted in moderate negative effect sizes while Westfield intervention had a very small negative effect size and Eastfield intervention effect size was negative but negligible. Pupils' reported perceptions of how good they were at writing (efficacy) declined at post-test for three conditions: there were very small negative effect sizes for both Eastfield conditions and a small negative effect size for the Westfield control. However, the Westfield intervention demonstrated a moderate positive effect size. The highest ratings pre and post-test for enjoyment and efficacy were given by the Eastfield intervention while the Westfield intervention had the lowest pre-test ratings for enjoyment and efficacy, and lowest post-test rating for enjoyment (see table 9.2, p.282). Eastfield intervention pupils rated the enjoyment of the programme very highly while the Westfield intervention gave a mid-range rating.

Intervention teachers completed questionnaires at pre and post-test, and control teachers at post-test (see table 9.3, p.283). All the teachers except the Westfield control gave high ratings for the frequency that students used prewriting/planning and editing/proofreading; the latter gave mid to quite high ratings. The frequency of writing drafts and revising texts markedly increased for the Westfield intervention at post-test to high ratings. The Eastfield control teacher also gave high ratings for drafting and revising. The Eastfield intervention teacher gave both quite high ratings at pre-test but reduced revision to mid-range at post-test. Making work available to an audience (publishing) increased notably from quite high to high for the Westfield intervention teacher but reduced from quite high to mid-range for the Eastfield intervention teacher, in line with the control post-test ratings. All the teachers agreed strongly that writing was an essential skill for pupils. The intervention teachers and Westfield control teacher gave quite high ratings for the sufficiency of pupils' writing skills to do the work in class, but this had meant a slightly reduced rating for the Westfield intervention at post-test. The highest rating was given by the Eastfield control. Both intervention teachers gave notably lower ratings of the sufficiency of pupil IT (Information Technology) access at post-test, although this was still mid-range or quite high. All the teachers, except the Westfield Control who gave a mid-range rating, felt strongly that Initial Teacher Education had not prepared them to teach writing. Teacher efficacy at teaching writing was quite high to high, although the Westfield intervention rating fell

slightly at post-test. Enjoyment of teaching writing increased slightly from quite high to high ratings for the intervention teachers. The Westfield control teacher felt quite strongly that teaching writing was not enjoyable. The intervention teachers strongly agreed that the pupils' writing skills had improved because of the programme, that they had enjoyed it, that it had increased their confidence to teach writing and that they would be using it again.

Qualitative information was obtained through an invitation for comments on the post-test questionnaires and a focus group of intervention teachers. Three Westfield intervention pupils made simple positive comments about the programme. The majority of Eastfield intervention pupils made comments (see table 9.8, p.293) and these were put into themes. The most popular themes were enjoyment (n=12) and approval of the checklist/enjoyment of checking work (n=8) e.g. "I really liked checking it over". Other positive themes were: would like to do more of this; found it helpful/learned a lot; liked the variety of topics. Two students made suggestions prefaced with positive comments about the programme. These were: to have a different writing style each week and to have some WOW words (impressive vocabulary). No control pupils made comments.

The intervention teachers felt that their own confidence to teach writing had improved, that the children had enjoyed the programme and the collaborative revision and editing had "had a massive impact" but had also reduced teacher workload. It was noted that it did not suit all children, as some prefer fiction writing but "those that tend to struggle with creative really benefited from this approach!" The teachers reported that pupil writing skills had improved, although one wondered if the reduced emphasis on vocabulary and more emphasis on "content" might have affected vocabulary use. The teachers found the first couple of weeks the most challenging and noted that some pupils found it difficult to complete the writing assessments without their usual discussions prior in class.

10.2.3 High School Intervention

The mean writing assessment scores were analysed using Student's unrelated unequal variance t-tests comparing intervention and control conditions at pre and post-test (see table 9.14, p.320). There were some significant differences. At pre-test, the English

intervention scores were lower than the control for Opening, Conclusion, Conventions and Writing Quality (all $p<.01$). They were also significantly lower than the Social Studies and English combined intervention for Opening, Conclusion, Conventions and Writing Quality (all $p<.01$). In addition, the English intervention was significantly lower for Word Count than the Social Studies intervention ($p=.01$).

Effect sizes comparing post-test and pre-test were calculated for all four conditions (see table 9.17, p.326). There were large positive effect sizes for all three intervention conditions for Writing Quality, the greatest being the Social Studies intervention (ES=1.37), whereas the control had markedly little impact on this (ES=0.00). The Social Studies intervention also had large positive effect sizes for Opening, Body and Transitions, a moderate positive effect size for Language, and a very small positive effect size for Conclusion. The Social Studies and English combined intervention had a large positive effect size for Opening, a moderate positive effect size for Body, small positive effect sizes for Conclusion, Transitions and Language, and a very small effect size for Conventions. The English intervention had a moderate positive effect size for Opening, small positive effect sizes for Body, Conclusion, Transitions and Language, and a very small positive effect size for conventions. The control had a small positive effect size for Transitions and a very small positive effect size for Language. The control also had a small negative effect size for Opening and a very small negative effect size for Body and Conclusion.

All the conditions had negative effect sizes for Word Count and Plan Word Count. The Social Studies intervention had large negative effect sizes and the Social Studies and English intervention had small negative effect sizes. The English intervention had a moderate negative effect size for Word Count and a small negative effect size for Plan Word Count. The control had a large negative effect size for Plan Word Count and a small negative effect size for Word Count.

Effect sizes for student responses to the questionnaire were calculated for post versus the pre-test population as a whole for the four conditions (see table 9.18, p.327). For enjoyment of writing there was a small positive effect size for the combined Social Studies and English intervention but a small negative effect size for the Social Studies intervention and the English intervention. For student writing efficacy the Social Studies intervention had a small positive effect size and the English intervention and the

combined Social Studies and English intervention both had very small positive effect sizes. The effects sizes for the control for enjoyment and writing efficacy were negligible. The English intervention students had a mean mid-range rating of enjoyment of the programme, while the other two intervention groups gave quite low ratings of enjoyment (see table 9.10, p.307); the combined Social Studies and English intervention student ratings being significantly lower (p=.01) than that of the English intervention when analysed using the Mann-Whitney test (see table 9.16, p.324).

Questionnaires were given pre and post-test to the intervention teachers and post to the control and other S2 (Grade 8) teachers in the school (n= 10, response rate 22.73%). The English teachers gave high or quite high ratings for the frequency of student use of pre-writing/planning, drafting, revising, editing/proofreading and publishing at pre and post-test (see tables 9.11, p.309; 9.12, p.313), as did the Languages teacher and Science-Biology teacher. The Maths, Physical Education (PE) and Home Economics (HE) gave low or quite low ratings. The Social Studies teachers gave quite low ratings for drafting and publishing with mid to high ratings for the other elements, although the control Social Studies teacher gave a low rating for revision. The interventions Social Studies teacher had ratings notably increased for edit/proofread and decreased for drafting at post-test while the English intervention teacher markedly reduced the revision rating.

There was generally strong agreement that writing was an essential skill for students, except for the interventions Social Studies teacher whose rating increased from a mid-range rating at pre to a quite high rating at post-test. There was quite high to high agreement that S2 students had the writing skills they needed to do the work in class from the control and interventions teachers, but for the interventions Social Studies teacher this had required a marked increase. The PE teachers gave the highest ratings; quite high to high ratings being given by all the other teachers excepting Art, HE and Languages: these had given ratings below the midpoint. The sufficiency of IT access to support writing was given quite high to high ratings by the Communication, Design and Technology (CDT), Maths, control English, interventions Social Studies and English intervention English teachers. However, quite low or below the midpoint ratings were given by most other teachers. The Social Studies and English intervention English teacher had a markedly reduced rating of IT sufficiency at post-test.

The English interventions teachers, followed by the control Social Studies teacher, were the ones who felt their training course had best prepared them to teach writing. The only other rating above the midpoint was by the interventions Social Studies teacher, with low to quite low ratings given by most others. For the adequacy of In Service training to teach writing the English teachers again had the highest ratings, the interventions Social Studies teacher gave an improved quite high rating at post-test and the control Social studies teacher gave a rating above the midpoint. All other teachers except one gave ratings below the midpoint, most being low or quite low. The English teachers reported high efficacy for teaching writing with most others giving quite high or above midpoint ratings; the lowest ratings were by the PE and Maths teachers. The greatest rating for enjoyment of teaching writing came from the Languages teacher, followed by the high ratings of the English intervention, Science – Biology, and interventions Social Studies teachers- the latter showing an increase at post-test. The HE and one PE teacher were the only others to give ratings above the midpoint; notably quite low ratings being given by the CDT, Maths and other PE teachers.

Students were invited to comment on the post-test questionnaire. The Social Studies intervention students who made comments had a mixture of opinions. The most frequent theme was effectiveness of the programme (n=5) (see table 9.19, p.328). Two found it had developed their skills, two found it slightly helpful in some way while another felt it had made their skills deteriorate. Enjoyment was the next theme (n=4), with half of those commenting on this aspect enjoying it and half not. Similarly, one student did not appreciate the change in teacher but another enjoyed changing teacher. Moreover, one felt the programme was too long while another felt it was too short. Difficulties with the writing assessment task (n=2) and the interruption of the programme (n=1) were also noted. Most students in the Social Studies and English intervention made comments, all of which were negative. The themes were: lack of utility of programme (n=8), lack of enjoyment (n=8), too complicated (n=7), process too long (n=6), dislike planning /planning method (n=4), dislike eraser use prevention (n=2), not do it again (n=2), prefer previous methods (n=2). Few English intervention students made comments but those comments were positive: two had enjoyed the intervention and one noted their favourite essay. The two control students who responded did not see the point of the study.

The English teacher from the combined Social Studies and English intervention was unavailable for the focus group but gave a view on the post-test teacher questionnaire that the intervention was less effective than the methods already in use in the school. This teacher's ratings indicated that they also felt quite strongly that students' writing skills had not improved as a consequence of the intervention. They strongly felt that they did not enjoy using the programme, it had not increased their confidence and they would not be using the programme again.

The English teacher from the English intervention gave a questionnaire rating indicating the programme had led to slight improvements in students' writing skills but later said that there had been no impact upon writing in a measurable way as a direct result of the programme. The teacher felt that group had a large number of students who struggled with paragraphing and neat handwriting let alone the more difficult sentence construction and higher order skills. However, the teacher noted that the students may have learnt things which came out in their writing at a later date. It was remarked that the students found the mnemonics difficult, not knowing what the words meant. The English intervention teacher had also found it difficult to work through the materials, with a lot of the students not finishing the programme. Furthermore, the teacher opined that the writing assessment tasks were different from their usual way of giving the students lots of research time. The English teacher had felt confident teaching writing prior to the intervention and so felt it had not increased their confidence. They had not particularly enjoyed the programme and would only be using principals in future which they were already using, such as revision. However, they highlighted the benefits of working across subject areas and using the same language and ideas.

The interventions Social Studies teacher felt quite strongly that student's writing skills had improved but felt some benefited more than others, particularly those of high average and above ability. They observed that less able students often wanted to get a task finished and move on to the next one rather than improve it. The teacher noted an additional benefit: the intervention was a good way to improve the students' understanding of the subject itself. The teacher, being a non-English specialist, had found the intervention very useful and noted that extending their skills in the specific area of writing had increased their confidence to teach writing. The Social Studies teacher pointed out there had been interruptions in school which had had most effect on the lower ability students. They also felt a break in the middle of the programme would

have been helpful and believed the programme would have been more successful if it had been run earlier in the year. The teacher felt strongly that they had enjoyed the programme and quite strongly that they would use the programme again. The Social Studies teacher also thought there would be a benefit of two faculties using this as a measurable part of a planned joint teaching project. They thought the students would be enthusiastic about it.

The Principal Teacher (PT) English highlighted the challenge of introducing a writing intervention for staff who have taught writing so frequently and for so long compared with teachers who had not. They wondered if there might have been more impact if the project were longer and felt that the writing assessments may not have accurately reflected what the students had learnt, as they often did not apply in tests what they had been taught. The PT also remarked that the staged process would be really useful in other areas.

The Depute Rector noted the benefits of working across subject areas and the benefit for non-specialists. The Depute Rector also reported that with the PT English there had been discussions about selecting aspects of the intervention and the way of working to link across different subject areas, expanding this to eventually include reading, talking and listening.

10.3 Strengths of Current Study

10.3.1 Survey

The survey of teachers' beliefs and practices about writing was the first of its kind to be administered in the UK which included high school teachers and the sample did not vary from the Local Authority teacher population in terms of gender. Similarly, the elementary and high school studies were the first to examine writing strategy instruction and self-regulation as part of evidence-based interventions in Scotland. Moreover, the writing studies took place in the same local authority as the survey and included elementary and high school students: the findings of the survey leading to the inclusion of the older students.

The survey elicited information about teachers' use of evidence-based writing practices and their beliefs around writing, including how important they thought it was and how adequately Initial Teacher Education and subsequent In Service had prepared them to teach writing. It was the first survey to explore whether teachers might use different forms of IT more frequently if it were more freely available and if they had more training, and whether students had sufficient IT and if they were permitted to use their own hardware in school (see appendix 4.3). It was also the first to directly ask teachers to rate their efficacy at teaching writing. In addition, Graham et al. (2008) had asked respondents to rate how much teachers liked teaching handwriting; this survey used the stronger verb "enjoy" with regard to writing in general.

10.3.2 Elementary and High School Interventions

The elementary and high school programmes had essentially the same evidence-based content therefore allowing comparisons to be made on intervention at different levels (see appendices 7.7 & 8.1). Also the programmes were provided as steps rather than as discrete lessons, thereby allowing the teachers some flexibility: the benefit of this was commented upon by the PT English. The teachers were also given training and support materials and the researcher was available for questions if required.

The elementary intervention was delivered in two different schools in different towns, each with a control condition. The control condition for both elementary schools was Big Writing, a widely-used approach (Wilson, 2012) and so this had real world relevance. The high school intervention compared delivery by a variety of English and Non-English specialist teachers; less than half of high school teachers without English degrees having reported they enjoyed, and were effective at, teaching writing in the survey (see table 6.5, p.214). The genre of compare and contrast was selected by examining the relevance of different genres to the Experiences and Outcomes of the Curriculum for Excellence for Social Studies (Education Scotland, 2009) which covered the age range of both the elementary and high school intervention students.

The high school conditions were randomly allocated by class. Both quantitative and qualitative methods (Cohen, Manion & Morrison, 2011) were used for the survey and the interventions including: rating scales for teachers and students, focus groups for teachers, assessments of students' writing and open-questions to teachers and students.

The writing tasks were evaluated not just for writing quality but also for the quality of the opening, body, conclusion, and language of the texts along with the use of conventions and transitions. In addition, word counts were made of the texts and, perhaps more importantly, the plans made by the participants. Furthermore, the teacher questionnaires pre and post-test were able to highlight whether beliefs had changed following the intervention, for example with regard to the sufficiency of IT available for students or their perceived efficacy and enjoyment of the teaching of writing. Similarly, questionnaires to students considered not only their efficacy at writing but also their enjoyment. This revealed interesting contrasts and changes.

The fidelity of implementation of both interventions was assessed using teacher logs and observations, and this in itself was a strength. Further strengths were the high fidelity of the Eastfield intervention and the reasonable fidelity of the Westfield intervention at elementary level. The moderate to high implementation fidelity of the Social Studies intervention and the moderate implementation fidelity of the combined Social Studies and English intervention at high school were also worth noting.

10.4 Weaknesses of Current Study

10.4.1 Survey

The overall response rate to the anonymous online survey of teachers in the Local Authority in Southern Scotland was low (23%; n= 345(see table 5.1, p.137)) and it was responded to by more elementary teachers (30.7%) than high school teachers (16.5%) making the elementary results potentially more reliable than the high school ones. Nonetheless, the minimum returned sample sizes for an alpha level of .05 were achieved (Barlett, Kotrlik and Higgins, 2001). However, this assumed that the sample was randomly selected when in fact it was determined by the wish of respondents to participate, although non-respondents might not necessarily vary in *substantive* ways from respondents, even with lower response rates (Holbrook, Krosnick & Pfent, 2008) and anonymous surveys can be more accurate at lower response rates than those which are not (Visser, Krosnick, Marquette and Curtin, 1996).

It was not possible to determine whether the teacher writing survey sample varied from the teacher population on a number of variables due to the lack of data kept by the Local

Authority, and so to gauge how reflective the sample was. Data was not available on: length of teaching experience; grade level/s taught; median grade level taught. Moreover it was not possible to have a measure of the socio-economic status of the schools the teachers worked in without losing anonymity and this might have been an important variable. Furthermore, the participants' responses were constructions rather than objective statements of reality: depending as they did on how the respondents interpreted and answered the questions. The respondents' level of knowledge and experience may have meant that some responses were ill-informed, for example they might not have been familiar with the writing practices named. In addition, they might have had varying degrees of awareness of their own practice and might have exhibited Social Desirability Bias by "over reporting admirable attitudes and behaviours and under reporting those that are not socially respected" (p.545, Krosnick, 1999). Answering survey questions can be demanding: respondents must interpret the question, remember relevant information, integrate the information into a judgement then translate that into a response amongst the alternatives offered (Krosnick, 1999). Consequently, respondents might have been less assiduous in any or all of these steps and generated satisfactory answers rather than optimal ones. Furthermore, respondents might have interacted only superficially with the questions or selected more neutral points on the rating scales (Krosnick, 1999).

A further limitation of the teacher writing survey was its only being available on line and this may have excluded some, perhaps older, teachers. However, the large number of more experienced teachers who took part suggests this was not a significant issue. An additional weakness was that not all the interventions had been researched at both elementary and high school level and there were constraints associated with the limited good quality research in some areas, particularly explicit teaching and the use of IT (see Chapter 3).

Despite the limitations the findings can be reasonably generalized within the Local Authority. The area of Southern Scotland where the survey took place was middle ranking in terms of deprivation (Scottish Government, 2012) with no large urban areas (settlements of 125,000 or more people) (see table 4.1, p.117). Therefore there should be some caution when applying these findings to areas of greater or lesser deprivation or with significant numbers living in large urban areas. Similarly, large urban areas may have some different challenges compared with rural authorities.

10.4.2 Elementary Intervention

The elementary part of the study only included schools in the Local Authority area in Southern Scotland which were large enough to have a control class and had volunteered to participate. As such they might not have been representative of other schools, in particular, schools with fewer pupils, pupils with higher or lower socio-economic status or schools which were in more rural areas or large urban areas. Although the genders of the pupils were reasonably evenly-matched across the conditions, the mean ages of the pupils in the Eastfield intervention were markedly younger than the others, particularly those in the Eastfield control. The school stated that this was coincidental and not the result of a policy. Attrition rates also varied notably between the two schools, with greater attrition at Westfield (see table 8.2, p.262). The classes were not randomly allocated as such to each condition. At Westfield the intervention was self-selecting in that it was easier for the intervention to take place with the class that had a full time teacher, rather than two part-time teachers. At Eastfield the least-experienced teacher expressed a desire to not be the intervention class but a willingness to be the control and this lack of confidence to try something new might also have been evident in other ways. In addition, the timing of the intervention in the summer term, when the end of the academic year approaches, might have had influenced the pupils' enjoyment of writing, which decreased for all conditions (see table 9.2, p.282). It was also unfortunate that personal commitments outside school initially affected the implementation fidelity of the Westfield intervention teacher.

There were further limitations associated with the measures. The writing assessment tasks were each done in one sitting at the same time, thereby preventing perhaps the same degree of revision were the pupils to have had more time to reflect. Similarly, the pupils were unable to research the topics, although they had been specifically chosen to avoid the need for this. The tasks were evaluated using a rubric developed during the study and this might have had its own limitations. Moreover, all the tasks were evaluated by the researcher and this might have resulted in unwitting bias. The pupil and teacher questionnaires both contained ratings scales and so were constructions rather than objective statements of reality and had the attendant limitations described in the survey section above. In addition, the focus group was conducted by the researcher

and this may have influenced the tenor of the comments made. It was notable that the intervention teachers reported increased confidence in teaching writing in the focus group but this was not reflected in the ratings of self-efficacy (see table 9.3, p.283). It would have been interesting to ask the teachers directly in the focus group if they thought their self-efficacy had increased. In addition, the lesson observations were made by the researcher and may have introduced bias. A further limitation was that the intervention itself was focused on compare and contrast essay writing and the writing quality improvements might not have been evident in other forms of writing the pupils did. Furthermore, the long-term impact was not assessed.

10.4.3 High School Intervention

The high school in the study had volunteered to participate and was located in a town in Southern Scotland and therefore might not have been as representative as schools with greater or lesser degrees of socio-economic status or in more rural areas. There was a markedly lower attrition rate for the English intervention than the other conditions (see 8.2, p.262). There were also some gender differences between the conditions, with notably more females than males in the Social Studies and combined Social Studies and English intervention conditions. Overall, there were also markedly more female student participants. In addition, the English intervention writing assessment task mean scores were significantly lower than the control and the combined Social Studies and English intervention scores for Opening, Conclusion, Conventions and Writing Quality at pre-test (all $p<.01$, see table 9.14, p.320), meaning the groups were not equally matched in terms of writing ability. The school reported that this was just by chance. Another limitation was that the control condition was "business as usual" rather than a specific programme, although it did have real world validity.

There were some weaknesses with how the programme was delivered. The implementation fidelity of the English intervention was low, with most not finishing the programme and important aspects such as the mnemonics and peer collaboration omitted to some extent. Moreover, the lowest percentage of high school students on-task, both overall and in discrete time slots, were seen with this class. The implementation fidelity of the English teacher in the combined Social Studies and English intervention was only moderate: how to revise was not modelled to the students by the teacher. The ratings scales in the student and teacher questionnaires and the

writing assessment tasks had the limitations given above. Furthermore, the focus group was only attended by two of the three intervention teachers, although the teacher who did not attend was able to provide a view through the questionnaire open question. The response rate of the other S2 (grade 8) teachers in the school was low and therefore possibly unrepresentative. The timing of the intervention was raised as an issue by the interventions Social Studies teacher in the focus group: being in the summer term meant that it was close to a time when some students would be free to no longer take the subject and were therefore less motivated (see Chapter 9). Likewise, the summer term had some disruptions due to sporting events and sadly, a student of the school died during the intervention period. Finally, as with the elementary study, the writing quality improvements might not have been evident in other forms of writing the students did and the long-term impact was not assessed.

10.5 Links to Previous Literature

10.5.1 Survey

There has been relatively little interest in the views of teachers on teaching writing, with only ten relevant articles identified in the literature search (see Chapter 2). Although subsequently Dockrell, Marshall and Wyse (2016) sought the views of elementary teachers in England the area remains largely overlooked. There should be a degree of caution when applying the findings of this survey in Southern Scotland to areas of greater or lesser deprivation or with significant numbers living in large urban areas. Nonetheless, it was striking how some of the findings were similar to those in USA. In the survey almost all the elementary and high school teachers agreed somewhat that writing was an essential skill (98.6 %, see table 6.5, p.214). This was a remarkably similar figure to that of Kiuhara et al.'s national survey of high school teachers in USA (2009), who found that 98% on a different rating scale agreed that writing was an essential skill for after high school. Given writing's importance it was concerning to find in the survey that Initial Teacher Education (ITE) was viewed as adequate preparation to teach writing by less than half of high school teachers, even those with English degrees (46.1%), although this was markedly higher than for those without English degrees (26.6%). Similar sentiments were revealed in Kiuhara et al. (2009), who found that ITE to prepare high school teachers to teach writing was seen as adequate or better by less than half of Language Arts teachers and by fewer Science or

Social Studies teachers. This deficit was not addressed by subsequent training, as the survey also discovered that more teachers with English degrees felt their In Service had adequately prepared them to teach writing (57.6%) than those without English degrees (26.6%). A similar difference was seen in the USA (Kiuhara et al., 2009).
Teachers were asked to rate their use of writing practices in the survey and the most frequently used was grammar instruction (see table 6.1, p.209). Grammar instruction has been demonstrated to have a negative impact on the writing of mainstream students (Graham et al., 2012; Graham and Perin, 2007) but was nevertheless also in frequent use and quite highly valued in Simmerman' et al.'s survey of elementary teachers in Utah, USA (2012). Similarly, Dockrell et al. (2016) found that the teaching of "word classes and the grammatical function of words" (p.423) occurred several times a week. They found that more popular practices included sounding out of phonemes, teaching about punctuation at the ends of sentences and using a wide range of vocabulary in inventive ways.

This survey was the first in the UK to survey both elementary and high school teachers on their practices and beliefs about teaching writing. It was also the first survey to ask teachers to what extent their students had the writing skills required in their elementary classes (86.2% agreed somewhat, see table 6.5, p.214) thus enabling a comparison with the high school teachers to be made (60.5%). The reason for the discrepancy would deserve exploration. It also inquired of elementary teachers how adequately their ITE and subsequent In Service had prepared them to teach writing: just 49.4% agreed to some extent they had been adequately prepared by ITE and 61.4% by In Service. It was notable that high school teachers with English degrees gave very similar responses. In contrast, the elementary teachers in Dockrell et al.'s survey in England all felt at least adequately prepared to teach writing by the training they had received (2016). However, the response rate was not given and just 88 of the 188 who attempted the survey completed it and were included in the results. Those who failed to complete may have had a different view of their training. Nonetheless, what this might mean about possible differences in teacher preparation in different parts of the UK still warrants further investigation.

Evidence-based writing practices had been identified in a literature review (see Chapter 3) for the survey which included many items not previously used in other surveys. Despite the unfortunate predominance of grammar instruction the modal values for

evidence-based writing practice use in the survey were generally encouraging, for example the weekly provision of adult feedback on writing, but the actual percentages meant that there were many teachers who were not using evidence-based practices at optimum frequencies, and some were not using some of them at all (see table 6.1, p.209).

The survey revealed much new information around the use of IT in school to support writing: over 40% of elementary and high school teachers felt that students had insufficient IT available to support their writing activities; a sizeable minority (see table 6.4, p.212). Teachers were largely in agreement that they would use IT to support writing more often if they had more equipment, more up-to-date equipment, better internet access and more training: this was particularly so for hardware with keyboards (76.0%). The lack of hardware did not mean that students were allowed to use their own devices: students were only permitted to use netbooks by 17.4% and smartphones by 7.8% of teachers (see table 5.8, p.170). In addition, notably more elementary teachers (65.4%) than high school teachers (49.5%) would use IT more frequently if they had more training. Both of these figures were high enough to suggest there is a considerable need for this, both locally and nationally.

The survey asked teachers to rate their efficacy at teaching writing. All the high school teachers with English degrees and over 90% of elementary teachers agreed they were effective at, and furthermore, enjoyed teaching writing (see table 6.5, p.214) despite large numbers feeling inadequately prepared by ITE or In Service. It would be interesting to explore what they felt had contributed to their effectiveness. This was remarkably similar to the survey of elementary teachers in England which found that 90% agreed they were effective at, and enjoyed, writing (Dockrell et al., 2016), although as mentioned above, they had all felt adequately prepared by their training. However, an issue was identified in this study in that less than half of high school teachers without English degrees felt they enjoyed, or were effective at, teaching writing. Despite the limitations of a survey this deserves consideration at a national level.

10.5.2 Elementary Intervention

The elementary study showed that the writing of P6 (broadly equivalent to 5th grade) pupils was greatly improved through the Write Away programme. This combined writing strategies with self-regulation strategies. The intervention gave explicit knowledge of writing strategies and genre features, which were modelled, supported through mnemonics, then performed collaboratively with adult feedback before progressing towards independent use. These elements were also evident in other successful interventions at upper elementary level: CSRI at grade 6 in Spain in Spanish (Torrance et al., 2007; Fidalgo et al., 2008); SRSD in German in grade 4 (Brunstein et al., 2011) and in English in grade 5 (Anderson, 1997, unpublished doctoral dissertation cited in Graham et al., 2012) (although only moderate writing quality gains had been evidenced using SRSD with grade 6 students of average or higher ability by Wong, Hoskyn, Jai, Ellis & Watson, 2008). Good models of writing (as in CSRI) and checklists (as in SRSD), helped to provide product goals, while self-regulation was further aided by the modelling of regulatory statements, as in both interventions. Notable distinctive features of the Write Away intervention were that it incorporated Boscolo et al.'s (2004) model of peer revision, rather than the think alouds used in CSRI, and pupils did not create their own self-regulatory statements as in CSRI and SRSD. In addition, pupils did not collaborate during drafting, unlike in CSRI, and despite being taught how to plan they had been told, that provided they revised their work, they did not have to spend a long time on this (see appendix 7.7). Moreover, the pupils knew their finished essays would be displayed, and peer revision was continued following the two essays in the teaching phase.

The Eastfield and Westfield schools interventions both had large positive effect sizes for Opening, Body, Conclusion, Transitions, Language and Writing Quality (see table 9.6, p.291). The Westfield intervention also had a large positive effect size for Conventions, whereas the Eastfield intervention had a small positive effect size. The differences in the latter might have been due to differences in the mean Conventions scores at pre-test; Westfield intervention started with a markedly poorer Conventions mean score which was just above statistical significance (p=.05, see table 9.5, p.287) but at post-test the scores were almost the same (see table 9.1, p.280). It might be harder for pupils' use of conventions to improve as much when starting from a higher baseline. The intervention teachers also reported that pupil's writing quality had improved as a consequence of the programme (see table 9.3, p.283). These results are similar to those found with CSRI with the slightly older grade 6 Spanish-speaking pupils in Spain.

Torrance et al. (2007) found a large positive effect size for writing quality (in Graham et al., 2012) and statistically significant improvements in writing quality, coherence and structure. In addition, the pupils had improved use of coherence ties, and similarly, in this study there were large positive effects on Transitions, which included the use of transitional words/phrases to link ideas in paragraphs and to link paragraphs, as well as to compare and contrast. Torrance et al. (2007) also found no significant change in word count, like in this study. Using a process measure they saw that pupils in the intervention spent significantly longer on planning post-test. Similarly, in this study, there was a large positive effect size for Plan Word Count.

The Write Away intervention, like CSRI (Torrance, 2007), did not require as much teacher input as SRSD (Harris et al., 2009) through direct work with pupils or collaborative writing (with the whole class) and instead used much more peer collaboration. Nevertheless, as with CSRI, large positive effects were seen on writing quality.

The form of peer collaboration used in the Write Away programme, peer revision of each other's work, had led to large impacts on quality at grade 4 and 6 on its own (Boscolo et al., 2004). However, Torrance et al. (2015) had found that grade 6 pupils in Spain had not benefited from the addition of planning and revision strategies to writing strategy focussed training in setting product goals. Torrance had also co-authored a study which looked at the writing quality of grade 8 students who had been part of the CSRI study in grade 6 (Torrance et al., 2007) 28 months earlier (Fidalgo et al., 2008). They found that although revising time had not been associated with writing quality at grade 6, *it was when in grade 8*. Furthermore, the grade 8 students spent longer on the tasks and wrote much longer texts (mean word count = 284) than they had immediately post-test when in grade 6 (mean word count = 93) (Torrance et al., 2007). Similarly, the grade 8 students wrote for longer, and produced longer texts than the grade 6 students who had been taught planning then revision (word count= 100) or revision then planning (word count =113) in Torrance et al. (2015) . Likewise, the writing assessments in Torrance et al. (2015) had been around an hour shorter and word counts markedly smaller than for this study (mean word counts: Eastfield= 215; Westfield = 147; see table 9.1, p.280). So this does not mean that peer revision did not contribute to the improvements in writing quality seen in this study, as the lack of an impact in Torrance et al. (2015) might have been a function of time on task and word count. In

addition, the peer collaboration for Torrance et al. (2015) and Torrance et al. (2007), and therefore the intervention for Fidalgo et al. (2008), took the form of feedback to think alouds rather than the approach used by Boscolo et al. (2004) and in this study. It may be that students profit more from this form of peer revision. Moreover, the teachers in this study reported that the peer revision element of the programme had had "a massive impact" (see Chapter 9). This study therefore supports the use of peer revision at upper elementary grades on this basis, particularly with longer texts when part of interventions of strategy instruction and self-regulation, while not entirely confirming it because it was part of a broader, evidence-based intervention and there was not a condition without peer revision and the time spent on revision was not monitored.

Revision strategies had been shown to be effect at improving writing quality with a range of grade 6 mainstream and English Learners in De La Paz and Sherman (2013). They had used "the SRSD model of instruction" (p.130) to teach the students, although in addition to whole class collaboration they had paired peer collaborative revision of sample texts. The students were encouraged to revise before editing, as in this study, but without a control group. This Write Away study would again support but not confirm the value of students being taught to revise before editing.

There were large positive effect sizes for Plan Word Count for both intervention classes (see table 9.6, p.291). Analysis using Student's unrelated unequal variance t-tests showed that Eastfield intervention mean Plan Word Counts were significantly higher than the Westfield intervention at pre and post-test (both $p<.01$, see table 9.5, p.287). Moreover, while at post-test the mean Plan Word Count for the Eastfield intervention was 90.96 words (SD=44.11), for the Westfield intervention it was only 12.70 words and seven didn't write a plan at all (SD=15.66) (see table 9.1 p.280). Despite these differences, the interventions in both schools resulted in large positive effect sizes on Writing Quality that were of a similar magnitude (ES: Eastfield =2.89; Westfield=2.70; see table 9.6, p.291). As part of the programme, pupils had been taught how to plan but told they did not have to spend a long time planning provided they kept revising their texts (see appendix 7.7). Torrance et al. (2015) found no benefit from planning for grade 6 pupils writing albeit shorter texts. These results suggest that while teaching pupils to plan resulted in a greater tendency for them to do so, any effect on writing quality would at most seem to be slight, as in Torrance et al. (2007). However, it may

be that teaching the pupils to plan helped them to understand the product goals. The absence of a condition without planning makes this just speculative.

Unlike CSRI (Torrance, 2007) and SRSD (Harris et al., 2009) the Write Away intervention did not require the pupils to think aloud themselves while having feedback from a peer or to create their own self-regulatory statements, as such it did not have as many self-regulatory elements although it still contained product goals and process goals with mnemonics to support them and the modelling of self-regulation. Fidalgo et al. (2015) compared different elements of the CSRI programme for effectiveness at grade 6 and found that observation of a mastery model of the writing strategies and self-regulation, followed by group reflection led to increased writing quality. There were no additional benefits from pupil think alouds with peer feedback besides maintenance. Incidentally, Fidalgo et al. (2015) could not confirm nor disconfirm the benefits of direct teaching including mnemonics. The elementary Write Away study therefore confirmed that think alouds with peer feedback are not a necessary component of effective writing interventions.

The essays produced in the lessons were displayed in the class room, providing an authentic purpose, which can lead to better writing (Purcell-Gates et al., 2007). One teacher remarked, "Mine have really liked having it displayed and knowing that people can come in and read it". This study would support but not confirm the benefit of authentic purposes for writing, as this was a minor part of the intervention.

Schunk et al. (1991) had found that providing pupils with product goals ($p<.05$), or process goals plus feedback ($p<.001$) led to improved self-efficacy. In this study, the pupils' ratings of self-efficacy at writing improved markedly at post-test for the Westfield intervention (ES=0.49; see table 9.7, p.292) but declined for the Eastfield intervention (see table 9.2 p.282). The Write Away programme included all three elements from Schunk et al. (1991) yet increased self-efficacy at writing was only reported in the Westfield intervention. However, the ratings of the Eastfield control condition reduced by a similar effect size (ES=-0.18; see table 9.7, p.292) as the Eastfield intervention (ES=-0.19). The Westfield control ratings also reduced at post-test (ES=-0.24). This suggests that the decline was related to something which affected both schools; for example, it may have related to the timing in the summer term, with teachers and pupils feeling tired and/or distracted. The Westfield intervention pupils

had had the lowest writing quality at pre-test (see table 9.1, p.280) and had seen a large improvement in quality at post-test so it was perhaps not surprising to see an increase in self-efficacy at writing: it might even have been a greater increase at different time of year. The Eastfield intervention pupils ratings of self-efficacy at writing had been the highest at pre-test and even with a reduction they were the highest at post-test and were still quite high (see table 9.2, p.282). Torrance et al. (2007) did not measure self-efficacy immediately at post-test but when the same students were assessed 28 months later there were no significant differences between intervention and control, despite still having better writing quality (Fidalgo et al., 2008); this does not mean it was not higher closer in time to the intervention. Brunstein et al. (2011) using SRSD in Germany with grade 4 pupils found a large positive impact on self-efficacy. Nevertheless, both the Westfield and Eastfield interventions produced large positive effect sizes on Writing Quality (see table 9.6, p.291). Such increases therefore do not necessarily result in increased feelings of self-efficacy in writing when ratings are already quite high.

The study was the first in Scotland to investigate writing strategy instruction and self-regulation as part of an evidence-based intervention. Moreover, it was located in Southern Scotland and so was in the context of the Curriculum for Excellence (Learning and Teaching Scotland, 2009) which advocates collaborative working alongside independent learning for the effective teaching of literacy. The Write Away intervention successfully included peer revision of each other's texts (Boscolo et al., 2004) supported by a checklist in a programme of writing strategy instruction and self-regulation. The intervention as a whole led to large impacts (see table 9.6, p.291) and the benefits of peer revision were noted by both teachers in the focus group and by some of the pupils (see Chapter 9). The mean pupil rating for enjoyment of the programme was midrange for the Westfield intervention but high for the Eastfield intervention (see table 9.2, p.282).

Likewise, the study was the first from the literature search to invite both pupils and teachers to rate at pre and post-test their enjoyment of writing, and teaching of writing, respectively. The teachers' ratings increased slightly from quite high to high ratings (see table 9.3, p.283) and one commented in the focus group, "The kids have enjoyed it, I've enjoyed doing it." In fact, however, intervention condition pupil ratings of enjoyment of writing actually fell at post-test (see table 9.2, p.282). Yet this was also true for the control conditions pupils. Furthermore, the reductions in enjoyment were

markedly greater for the control conditions. There was a small negative effect size for the control condition pupils' ratings of enjoyment of writing in both schools but only a very small negative effect for the Westfield intervention and a negligible effect for the Eastfield intervention pupils (see table 9.6, p.291).

Serendipitously, the control condition in both schools was Big Writing (Wilson, 2012). This study showed that overall it produced a small positive effect size at Eastfield and a negligible effect at Westfield schools for Writing Quality (see table 9.6, p.291). It was not as effective as the Write Away intervention yet is in wide use in the Local Authority and beyond.

10.5.3 High School Intervention

The Write Away programme included writing strategy instruction and self-regulation in this high school study with S2 students (broadly in grade 8). There were large positive effect sizes for all three intervention conditions for Writing Quality, the greatest being the Social Studies intervention (ES=1.37), whereas the control had markedly little impact on this (ES=0.00) (see table 9.17, p.326). The only study from the literature search to investigate writing strategy instruction with self-regulation with mainstream grade 8 students was De La Paz (2005). She found SRSD with historical reasoning had a large positive effect on argumentative writing (ES=1.36). However, students who were not able to write four or more paragraphs were excluded on the basis that they had not completed the intervention, because SRSD is criterion rather than time-based. Had these students been included it is reasonable to conclude that the effect size would have been smaller.

Broadly grade 7 students (Year 7) were the subjects of Torgerson, Torgerson, Ainsworth, Buckley, Heaps, Hewitt and Mitchell's investigation (2014) into the use of SRSD along with memorable experiences on writing quality in England. Only students who had been predicted to achieve a level 3 or insecure level 4 in national tests at the end of elementary school, that is, around half of the children in the classes, were included: meaning more and less able students were excluded. The national expectation was for students to achieve a secure level 4 grade. The intervention included six weeks in the final term at elementary school and a term (about 12 weeks) at the start of high school. Around half of the students who had been included in the intervention at

elementary were not included in the final results because they went on to different schools or did not complete both assessments. This was a high attrition rate. The intervention included writing strategy instruction , self-regulation and peer evaluation while having the addition of memorable experiences as a focus for writing lessons. The effect size was medium (ES=0.74, N=119; Torgerson et al., 2014). This showed the relatively successful use of strategy instruction and self-regulation to improve writing quality in the UK but it was not clear how much of the improvement was due to the motivational effects of having memorable experiences to write about. The effect size was not as large as those found in this study.

Torgerson et al. (2014) and De La Paz (2005), unlike this study, did not teach revision strategies to the students. However, Fidalgo et al. (2008) found that time spent on revision when writing essays was associated with writing quality, for both the intervention and control groups. Similarly, Boscolo et al.'s peer revision study with grade 8 students led to a large impact on writing quality (2004). The high school study included peer revision, alongside broader writing strategy instruction and self-regulation, and led to large impacts (see table 9.17, p.326). Torrance et al. (2015) questioned the utility of teaching planning and revision following the lack of a benefit when added to strategy focussed training in setting product goals. However, as mentioned above, the writing products were markedly shorter than the grade 8 students in Fidalgo et al. (2008) and in this high school study (see table 9.9, p.305) and the students spent less time writing. This study therefore supports the use of peer revision at grade 8, particularly with longer texts when part of interventions of strategy instruction and self-regulation, while not entirely confirming it. This was because it was part of a broader, evidence-based intervention, there was not a condition without peer revision and the time spent on revision was not monitored.

The high school study included a measure of student self-efficacy at writing. De La Paz (2005) had not measured self-efficacy. Fidalgo et al. (2008) found there were no significant differences between intervention and control 28 months after a CSRI intervention in grade 6, despite having better writing quality. Unfortunately, they did not assess it closer to the time of the intervention. Brunstein et al. (2011) using SRSD in Germany with grade 4 pupils found a large positive impact on self-efficacy, as did Schunk et al. (1991) when using product goals, or process goals and feedback. In the high school study there was a small positive effect size for the Social Studies

intervention, and very small positive effect sizes for the other intervention conditions while the control had a negligible effect (see table 9.18, p.327). However, all the ratings at post-test were broadly around the midpoint (see table 9.10, p.307) and the pre-test measure was a combination of the control and intervention ratings and so there might have been pre-test differences. Nevertheless, increased writing quality was associated with some increases in self-efficacy at writing, although the effect was small.

Torrance et al. (2007) found that grade 6 pupils in a CSRI intervention spent significantly more time planning post-test than controls and this was associated with better writing quality, if only weakly so. This remained the case with the same students 28 months later (Fidalgo, 2008). However, the students in all four conditions in the high school study had markedly reduced Plan Word Counts (see table 9.9, p.305), suggesting less time spent planning. At post-test, the mean Plan Word Count for the control group was 0.00 but the mean for the most successful intervention group, Social Studies, was just 3.12 words: only one student wrote a plan and their writing quality was amongst the lowest in that condition. Torrance et al. later questioned the benefit of planning and revising strategies if grade 6 students have a clear model of what and how to write, having seen no benefit when students wrote short essays (2015). The text word counts in the high school study were markedly higher than in Torrance et al. (2015) but were still relatively short, so planning might not have been required or beneficial in this instance but might have been for longer tasks. However, since there was not a condition which was not given planning instruction and there were no writing process logs for students to complete so it was not possible to confirm or disconfirm the importance of planning at S2 for short essays. Furthermore, planning instruction was a feature of De La Paz's successful grade 8 SRSD intervention with historical reasoning and argumentative writing strategies (2005). It was also part of the elementary study described above, which had resulted in a larger impact on writing quality than this high school study, although there were a number of variables unique to the high school which might have explained the differences. In addition, the students in this study had been told that they need not spend long planning, provided they then revised their work and this might explain why they planned less. The extent to which they revised during the writing assessment task is unfortunately unknown. Furthermore, it might be that planning becomes is more important for different individuals (Baaijen, Galbraith, & de Glopper, 2014), or in the absence of the other features of this intervention. Moreover, teaching planning, even if it is not used, might support the learning of product goals. It

is therefore difficult to draw many conclusions other than that large improvements in writing quality can be seen without apparently increasing the time spent planning when in the context of a strategy intervention with self-regulation but it was possible there might have been larger gains if the students had planned more than they did.

The high school study was the first in Scotland to investigate writing strategy instruction and self-regulation as part of an evidence-based intervention, Write Away, in S2 (broadly grade 8). Moreover, it was the first to use non-English specialists at high school to do so. De La Paz (2005) had employed Language Arts and Social Studies teachers, but they taught elements from within their subject areas, namely, argumentative writing and historical reasoning. The same high school writing interventions were delivered by: Social Studies teacher only; English teacher only; a combination of a Social Studies teacher and English teacher. There were some significant differences between the students in the conditions when analysed using Student's unrelated unequal variance t-tests at pre and post-test (see table 9.14, p.320). In particular, the English intervention had lower mean Writing Quality scores than the control and combined Social Studies and English interventions (both $p<.01$). Furthermore, the English intervention had markedly low implementation fidelity such that conclusions regarding that condition have to be tentative. The combined Social Studies and English intervention had moderate implementation fidelity, as how to revise was not modelled to the students by the teacher (see Chapter 9). The English teachers did not enjoy the programme, especially the one in the combined programme, and did not feel it led to improved writing quality. By contrast, the Social Studies teacher, who took part in the Social Studies only and the combined programme, had enjoyed teaching the programme and felt it had led to improved writing quality (see table 9.11, p.309; Chapter 9). The largest positive effect size on Writing Quality was for the Social Studies intervention, closely followed by the combined programme (see table 9.17, p.326). The English intervention also resulted in a large positive effect size but it was notably not as large as for the other two interventions. The control condition saw no overall effect on Writing Quality. Considering just moderate or large effect sizes, all three interventions produced large to moderate positive effect sizes for Opening, while the Social Studies and combined Social Studies and English interventions had large and moderate positive effects on Body, respectively. In addition, the Social Studies intervention had a large positive effect for Transitions and a moderate positive effect size for language. The study showed that an intervention including writing strategy

instruction and self-regulation resulted in large positive impacts on Writing Quality, when delivered by English or non-English specialists.

The reluctance or inability of the English teachers in the study to follow the programme with higher implementation fidelity was in contrast to the Language Arts teachers in De La Paz (2005). Although there was an important difference: the high school study had the English teachers delivering the same programme as a Social Studies teacher. In addition, from the survey it was evident that teachers with English degrees in this Local Authority felt very effective at teaching writing already and so might not have been as open to new ways of teaching writing as the high school teachers without English degrees (see table 6.5, p.214). In addition, the genre of compare and contrast had high relevance for the Social Studies curriculum. Furthermore, conducting a study involving the teaching of writing might have been less threatening to the professional identity of the Social Studies teacher than it was for the English specialists who might have seen themselves as experts at teaching writing. Although only in one school, this study indicates that delivery by Social Studies teachers, and perhaps other non-English specialists, is preferable at grade 8 to delivery in a combined programme or by English specialists.

The study was unique in assessing the perceived self-efficacy of the S2 intervention teachers using a rating scale pre and post-test (see table 9.11, p.309). All the intervention teachers gave quite high ratings at pre-test. The ratings of both English teachers increased slightly at post-test, but the Social Studies teacher's rating remained the same, despite demonstrable increases in Writing Quality in the students and stating that the intervention had led to increased confidence to teach writing. However, the Social Studies teacher's rating of enjoyment did increase slightly to a high level, as did the English teacher from the combined programme. It is possible that a longer term intervention might have led to improved feelings of self-efficacy for the Social Studies teacher.

Students in the study were also asked how much they enjoyed writing (see table 9.10, p.307). All the post-test mean ratings were around the midpoint, including for the control. Effect sizes were calculated using the pre-test population as a whole, which were also around the mid-point, and there were very small negative effect sizes for the Social Studies and combined Social Studies and English interventions. Although there

were significant differences in Writing Quality at pre-test between some of the groups (see table 9.14, p.320) this suggests that the programme had a negative, albeit very weak, impact on writing enjoyment for students as the English intervention had had weak implementation fidelity. Moreover, the intervention students' ratings of enjoyment of the Write Away programme were quite low for the Social Studies and combined Social Studies and English intervention but midrange for the English intervention (see table 9.10, p.307). The questionnaire comments for the English intervention were few but positive (see Chapter 9), while the Social Studies comments were mixed (see table 9.19, p.328) and the combined intervention comments were negative (see table 9.20, p.329).

There were two unforeseen findings from the high school study. The first was that one group, the combined Social Studies and English intervention, did not have revision modelled to them due to implementation fidelity issues but did have peer revision observed (see Chapter 9). This intervention resulted in a large positive effect on Writing Quality (ES= 1.20, see table 9.17, p.326) but not as large as the Social Studies intervention, which had a moderate to high degree of fidelity and included teacher modelling of revision (ES= 1.37). This suggests that teacher modelling of revision enhances the impact of subsequent peer revision as part of a broader evidence-based intervention. However, there needs to be a degree of caution with this finding because there were other variables, not least the apparent ill-disposition of the English teacher to the programme.

Finally, the Write Away intervention unlike De La Paz (2005) did not teach a historical reasoning strategy yet the Social Studies teacher reported in the focus group (see Chapter 9) an improvement in subject skills in the students. The teacher said, "…the ones who were more able stretched themselves a bit more, made better links between things in history rather than just knowing and understanding the history." This was similar to Klein and Samuels (2010) who found that when grade 7 and 8 students were taught how to write arguments their learning improved also. They felt that, "…as students construct knowledge for readers, they also construct it for themselves" (p.214). They felt an important part of this was students having the genre knowledge, a feature of this intervention and other successful interventions including CSRI and SRSD (Hoogeveen, 2012, Torrance et al., 2007, Harris et al., 2009). Of similar importance might be the process of revising. It is known that some people learn as they write and

benefit most from a draft-revise strategy (Baaijen, Galbraith, & de Glopper, 2014). Rather than writing merely being the transcription of thoughts already in the mind, thoughts can come into existence through the composing process itself and through rethinking and revision become coherent, what Bereiter and Scardamalia (1987) described as "Knowledge transforming" (p10). To help students develop a knowledge transforming model of writing, as this would help learning, Bereiter et al. recommend: "The thinking that goes on in composition needs to be modelled by the teacher, who can thereby show the problem-solving and planning processes that students are often unaware of" (p.363). The act of revision is therefore not just about improving writing quality but also improving the learning itself. This study underlines the importance of revision to learning and subsequently of the use of teacher modelling of writing processes, and as mentioned above, the use of peer revision. When peers revise they have an opportunity not just for discussing the features of the writing but also the content. The impact of peer revision on learning therefore deserves further investigation.

10.5.4 Summary

10.5.4.1 What from the previous literature has been confirmed

- Initial Teacher Education was viewed as adequate preparation to teach writing by fewer than half of high school teacher respondents with English degrees. Less than a third of high school teacher respondents without English degrees, i.e. typically non-English specialists, felt adequately prepared. In Service was viewed more favourably by most teacher respondents but large numbers still felt inadequately prepared, particularly high school teachers without English degrees. Similar differences were seen in the USA in a survey of high school teachers (Kiuhara et al., 2009).
- Grammar instruction was the most frequently used writing practice despite its negative effects. It was highly valued by elementary teachers in USA (Simmerman et al., 2012) and one of the most frequent practices of elementary teachers in England (Dockrell et al., 2016).
- The Write Away programme, which combined writing strategy instruction with self-regulation strategies, led to large positive effect sizes for writing quality at

P6 (broadly grade 5) (ES: Eastfield= 2.89; Westfield = 2.70) as in studies with 6th graders in Torrance et al. (2007) and Fidalgo et al. (2008). It also resulted in large positive effect sizes for writing quality at S2 (broadly grade 8) (ES: Social Studies intervention = 1.37; Social Studies and English intervention= 1.20; English intervention = 0.87) as was seen through the use of an SRSD approach in De La Paz (2005).

- Teaching P6 pupils to plan in this study resulted in a greater tendency for them to do so but any effect on writing quality was at most slight (Torrance et al.,2007).
- The amount of teacher input can be reduced from the levels seen in SRSD (Harris et al., 2009) and writing quality still be improved P6 and S2 when there is more peer collaboration, as in Write Away and CSRI (Torrance, 2007).

10.5.4.2 What this study disconfirmed

- Writing quality increases following the use of self-regulation strategies do not *necessarily* result in increased student feelings of self-efficacy in writing when ratings are already quite high (Schunk et al., 1991).
- Initial Teacher Education and In Service were viewed as adequate preparation to teach writing by fewer than half and almost two-thirds of elementary teacher respondents respectively. By contrast, all the elementary teacher respondents in a survey in England felt at least adequately prepared to teach writing (Dockrell et al., 2016).

10.5.4.3 What in this study is completely new

- The first teacher writing survey in of both high school and elementary teachers and the first study in Scotland to investigate writing strategy instruction and self-regulation as part of an evidence-based intervention.
- Many teachers surveyed were not using evidence-based practices at optimum frequencies, and some were not using some of them at all. For example, 24.0% never used product goals.

- Nearly half of elementary and high school teacher respondents felt students had insufficient IT to support their writing. Most teacher respondents would use IT to support student writing more frequently in class if they had more up-to-date equipment, better internet access and more training. Most teacher respondents did not let students use their own devices.
- All the high school teacher respondents with English degrees and almost all elementary teacher respondents agreed they were effective at teaching writing: less than half of the high school teachers without English degrees felt they were.
- The Write Away intervention produced large positive impacts on writing quality but the effect sizes at P6 were double those of the most successful condition at S2.
- The Write Away intervention successfully included peer revision of each other's texts (Boscolo et al., 2004) in a programme of writing strategy instruction and self-regulation and resulted in large improvements in writing quality. The study supported the use of peer revision in this way, particularly for longer texts.
- Both English specialists and Non-English specialists at high school can deliver writing strategy instruction and self-regulation strategies instruction, resulting in large positive impacts on writing quality.
- The non-specialist Social Studies teacher delivered the high school intervention with greater implementation fidelity than the English specialists and achieved a greater improvement in writing quality for the students.
- Teacher modelling of revision seems to enhance the impact of subsequent peer revision as part of a broader evidence-based intervention.
- A programme including writing strategy instruction, teacher modelling of revision and peer revision when implemented with fidelity by a Social Studies teacher led to a reported increase in understanding of the subject, especially for the more able students.

10.6 Implications for Practice, Policy and Future Research

10.6.1 Implications for Teacher Practice

The teacher respondents' most frequent writing practice was traditional grammar instruction. This should stop for all except bilingual students, as it is ineffective at improving writing quality (Graham et al., 2007; Graham et al., 2012). Instead, teachers should use writing practices which are evidence-based. This will necessitate appropriate In Service to be provided. The Write Away programme in this study, which combined writing strategy instruction with self-regulation strategies and other evidence-based practices, had a large positive impact on writing quality at both P6 (broadly grade 5) and S2 (broadly grade 8) with mainstream students (see tables 9.6, p.291 & 9.17, p.326). Similar, suitably differentiated approaches have led to large impacts with children as young as grade 2 (Harris, Lane, Graham et al., 2012).

In this study, the impact on writing quality at P6 was much higher than at S2, although that was also large and may have been larger had the timing been different The Write Away programme should therefore be widely used at upper elementary grades, while similar approaches which combine writing strategy with self-regulation strategies could be used with younger pupils. The Write Away programme could easily be adapted to teach other genres, such as problem-solution, as appropriate to the curriculum.

Moreover, the best results at high school were produced when the intervention was delivered by a Social Studies teacher, i.e. a non-English specialist. The English teachers in the study seemed reluctant, to varying degrees, to engage in an intervention which inferred that their teaching of writing was not optimal. Non-English specialists could use the Write Away approach to increase the range of genres the students are competent in. Teachers of subjects with writing demands would see the potential benefits without perhaps feeling threatened by the suggestion that they needed to alter their practice. They should teach the genre/s appropriate to that subject such as causes and effects, argumentative, science reports and so on. This will not only impact upon writing quality but is likely to impact positively upon learning, as was seen in this study and Klein et al. (2010). It is possible that some non-English specialists might not see the teaching of writing as part of their role. However, making the genres appropriate for their subject should go some way to overcoming that.

An important feature of the Write Away programme was peer revision and editing, which has been shown to improve writing quality at both elementary and high school

level (Boscolo et al., 2004; De La Paz, 2013). This can be successfully used outside of the programme. How to revise and edit should be modelled first by the teacher. Teachers should then provide opportunities, perhaps weekly, for children to revise and edit their writing collaboratively, which more than a quarter of teacher respondents never let their students do. There are also benefits from students discussing their individual plans before writing (De La Paz, 2005) as in this study. Notable numbers of elementary pupils in the study commented on their enjoyment of peer revision and editing (see table 9.8, p.293), which had the added benefit of also reducing marking for teachers (see Chapter 9).

Many elementary and high school teacher respondents recognised that students would benefit from more/better quality IT provision to support writing and the use of IT has been shown to lead to medium effects upon writing quality at elementary and high school level (Graham et al., 2007; Graham et al., 2012). It also makes revision less onerous. Provided issues around resourcing, training and use of student personal devices are addressed by the Local Authority then teachers should increase the use of IT in class to support students' writing.

The Write Away intervention could be used in other countries besides the UK. Anglophone countries such as the Republic of Ireland, Australia and the USA are likely to see benefits with the approach. Interventions which include writing strategy instruction with self-regulation strategies have been successfully used in languages other than English, including German (Glaser et al., 2007) and Spanish (Torrance et al., 2007). It is reasonable to conclude that the Write Away intervention, suitably translated, could be of utility in other countries too.

10.6.2 Implications for Policy

More than half of both elementary and high school teacher respondents felt inadequately prepared to teach writing by their Initial Teacher Education (ITE) (see table 6.5, p.214). Given the varying lengths of service of the teachers and therefore differing times when they were trained this may not reflect the current content of ITE, although it may do. Whether or not current ITE, particularly for high school non-English specialists, is adequate preparation to teach writing ought to be investigated and changes made if

appropriate. This would also apply to the USA (Kiuhara et al., 2009) and possibly other countries too.

More teacher respondents felt the In-Service training they had received had prepared them to teach writing than had been the case for their ITE, as in the USA (Kiuhara et al., 2009). However, a striking 60.8% of high school teacher respondents without English in their degrees in this study felt In-Service had not adequately prepared them to teach writing. Furthermore, almost a third of these teachers felt to some extent they were not effective at teaching writing (see table 6.5, p.214). This is a missed opportunity, as literacy is not just the responsibility of English teachers at high school (Learning and Teaching Scotland, 2012). Scottish national data on writing standards of students showed that the numbers reaching the appropriate standard were lower in high schools than elementary schools and that anything from a third to almost a half of pupils were not reaching the required standards at upper elementary and lower high school grades (P4 (broadly grade 3); 64%, P7 (broadly grade 6) 68%; S2 (broadly grade 8) 55%) (Scottish Government, 2015). The National Improvement Framework has as one of its four priorities: "Improvement in attainment, particularly in literacy and numeracy" (p.7, Scottish Government, 2016). One of the ways to help achieve this would be to ensure that current teaching staff, at both elementary and high school, are skilled in evidence-based teaching of writing practices. This will require good quality In Service and Education Scotland could support Local Authorities in providing this. A similar approach could be taken in countries which face similar difficulties, in particular the USA.

From the literature, the use of IT has been shown to improve writing quality at grades 6 to 8 and there is some evidence that IT use can benefit, students as low as grade 3 (Beck & Fetherstone, 2003, Lowther et al., 2003, Snyder, 1993). There has been little research, but it is reasonable to assume that the benefits of IT would also apply at least as much for older students, not least because it makes revision and editing easier. In addition, digital writing skills themselves are becoming ever more important (European Commission, 2012). Despite this, over 40% of elementary and high school teacher respondents felt that students had insufficient IT available to support their writing (see table 6.4, p.212). Most teacher respondents would use IT to support student writing more frequently in class if they had more up-to-date equipment, better internet access and more training: this was particularly so for hardware with keyboards (76.0%, see

table 6.4, p.212). In order to improve both writing standards and prepare students for the 21st century the UK Governments and Local Authorities should therefore ensure that sufficient, appropriate IT facilities, including broadband access, are available for students as and when they need them, both at home and school. The expense could be reduced by encouraging a "Bring Your Own Device" approach, although more devices which can be typed upon might still be needed. In addition, up-to-date In Service on IT would be required since around half of high school and two thirds of elementary teacher respondents reported a need for it. The availability of appropriate IT to support students' writing is likely to vary among different countries but these principles would apply beyond the UK, regardless of the language used.

10.6.3 Implications for Future Research

The study took place in Southern Scotland. Replication in other parts of the UK and beyond would be valuable, particularly in more urban environments, such as cities. The effect for students with English as an additional language would be worth exploring, as would the impact for younger and older students.

Replication of the study at a high school with non-English specialist Social Studies teachers at a time when the students were not coming to the end of their involvement in that subject at school and there were no sports events disruptions might result in a larger impact on writing quality. In addition, it would be useful to investigate what the impacts might be were the approach used with different non-English specialist teachers, such as Science or Home Economics using genres suited to the subjects.

The intervention Social Studies teacher reported positive impacts on students' learning as a consequence of the Write Away intervention. The potential for this knowledge transformation during writing should be shared with students, as well as an acknowledgement that this can be challenging to do, even for expert writers (Bereiter et al., 1987). This setting of a deliberate cognitive goal, in this case to learn while writing well, is what Bereiter et al. (1987) described as "Intentional cognition" (p.361). Following the intervention, the effects on learning alongside writing quality could be assessed, not just in terms of how much is learnt but also in the depth of the understanding. A control condition and conditions with and without *peer* revision, but still with revision taught, could also be compared in these terms. The use of process

measures, such as writing logs, would enable firmer conclusions to be drawn about the amount of time spent on different activities, such as planning and revision, and the effects on writing quality and learning.

The potential additional benefit of increased, good quality, IT availability upon an intervention such as Write Away, which includes writing strategy instruction and self-regulation strategies deserves investigation. This is particularly so at high school, where even a few years ago 75% of seventeen year olds typed faster than they wrote (Horne et al., 2012).

10.7 Conclusions

This study investigated four research questions. The first question was:

What view do elementary and high school teachers in a Local Authority in Southern Scotland have of current practice in writing instruction and of a range of evidence-based approaches?

This was the first survey of teacher views of writing in Scotland and it yielded important information. The teacher respondents' most frequently used practice was grammar instruction, which was used at least weekly by 54.5% of respondents (see table 6.1 p.209). However, grammar instruction has been demonstrated to be at best an ineffective intervention for mainstream students who were not bilingual learners. (Graham et al., 2012; Graham et al., 2007). Many teachers surveyed were using some evidence-based practices but not at optimum frequencies, and some were not using some of them at all. The time currently spent on grammar instruction should be used for writing practices which are evidence-based.

According to Graham et al. Information Technology can have positive effects on writing quality (2007; 2012) but almost half of elementary and high school teacher respondents felt students had insufficient IT to support their writing (see table 6.4, p.212). Most teacher respondents would use IT to support student writing more frequently if they had more up-to-date equipment, better internet access and more training. Provision of these, along with mechanisms to allow students to use their own devices, would have a significant impact on writing standards.

The survey also strikingly revealed that Initial Teacher Education was viewed as adequate preparation to teach writing by fewer than half of the high school teacher respondents with English degrees and the elementary teacher respondents (see table 6.5, p.214). Perhaps less surprisingly, fewer than a third of high school teacher respondents without English degrees, i.e. typically non-English specialists, felt adequately prepared. In Service was viewed more favourably by most teacher respondents but large numbers still felt inadequately prepared, particularly high school teachers without English degrees. It was interesting to find that similar differences were seen in the USA in a survey of high school teachers (Kiuhara et al., 2009). ITE and In Service provision need to be examined closely, and changes made where relevant, in both Scotland and the USA to ensure that they provide adequate preparation for teachers to teach writing.

On a positive note, despite concerns about how ITE and In Service prepared them to teach writing, all the high school teacher respondents with English degrees and almost all elementary teacher respondents agreed they were effective teachers of writing. However, fewer than half of high school teacher respondents without English degrees felt effective at teaching writing. Increasing their skills through In Service has the potential to have a considerable impact on students' writing skills, which are consistently lower than expected in high school than in elementary school in Scotland (Scottish Government, 2015; Scottish Government 2013c; Scottish Government, 2010). The second research question was:

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 9 years 6 months to 10 years 6 months at the start of the school year in August in Primary 6 (P6; broadly equivalent to 5th Grade) in two elementary schools in Southern Scotland?

The study found that implementing the evidence-based Write Away programme, which included writing strategy instruction with self-regulation strategies and peer revision of each other's texts, led to large positive effect sizes for writing quality at P6 in two elementary schools in Southern Scotland (ES: Eastfield= 2.89; Westfield = 2.70. (see table 9.6, p.291)).

Pupil ratings of efficacy at writing reduced slightly at post-test for both control conditions and the Eastfield intervention (see table 9.2, p.282). This may have related to the time of year. Nonetheless, for the Westfield intervention, which started from a lower pre-test score, there was a moderate positive effect size on mean pupil ratings of writing efficacy (see table 9.7, p.292). This showed that writing quality increases following the use of self-regulation strategies do not necessarily result in increased student feelings of self-efficacy in writing when ratings are already quite high, unlike seen in Schunk et al. (1991). The pupils gave mid-range (Westfield) to high (Eastfield) mean ratings of enjoyment of the programme (see table 9.2, p.282). The two intervention teachers agreed strongly that writing quality had been improved as a consequence of the programme and that they would be using it again (see table 9.3, p.283 and Chapter 9). They also felt their confidence to teach writing had improved and the collaborative revision and editing had "had a massive impact" while reducing teacher workload.

The third research question related to the intervention at high school:

Does the implementation of evidence-based teaching of writing practices improve writing quality for students typically aged 12 years 6 months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

Implementing the evidence-based Write Away programme, led to large positive effect sizes for writing quality at S2 in an urban high school in Southern Scotland (ES range =0.87 to 1.37; see table 9.17, p.326). These were large but at best half the magnitude of effect sizes seen in the elementary intervention conditions (see table 9.6, p.291). The results for the different conditions in the high school differed so much that they will be discussed separately in association with the final research question (see below).

The fourth research question examined delivery of the intervention by different combinations of subject specialists:

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions to students typically aged 12 years 6

months to 13 years 6 months at the start of the school year in August in Secondary 2 (S2; broadly equivalent to 8th Grade) in a high school in Southern Scotland?

The three different high school intervention conditions were delivered by different combinations of subject teachers. These were: English teacher delivery only; Social Studies and English teacher combined delivery; Social Studies teacher only. The most successful intervention was that of the Social Studies teacher only (ES Writing Quality = 1.37, see table 9.17, p.326). This teacher followed the programme with moderate to high fidelity; the highest of the three teachers (see Chapter 9). The Social Studies teacher felt quite strongly that student's writing skills had improved but felt some benefited more than others. They observed that less able students often wanted to get a task finished and move on to the next one rather than improve it. This teacher also reported an improvement in subject skills in the students. The Social Studies teacher had enjoyed the programme, felt more confident in teaching writing and reported that they would use the programme again (see table 9.11, p.309). There was a small positive effect on the students' writing efficacy ratings (see table 9.18, p.327). Around half of the students gave their views on the programme and these were mixed (see Chapter 9).

The English teacher from the combined Social Studies and English intervention delivered the programme with moderate implementation fidelity (see Chapter 9). The effect size for this condition for writing quality was also large (ES= 1.20, see table 9.17, p.326) but not as large as for the Social Studies only condition. However, the English teacher for the combined intervention felt quite strongly that students' writing skills had not improved as a consequence of the intervention. They strongly felt they had not enjoyed using the programme, it had not increased their confidence and they would not be using the programme again (see table 9.11, p.309). There was a very small positive effect on the students' writing efficacy ratings (see table 9.18, p.327). Almost all the students made comments when invited to and they were negative (see Chapter 9).

The English only intervention was delivered with low implementation fidelity but nevertheless resulted in improved writing quality, although the gains were the lowest of the three intervention conditions (ES=0.87, see table 9.17, p.326). The English only intervention teacher reported there had been no impact upon writing in a measurable way as a direct result of the programme. The teacher felt that group had a large number of students who struggled with the basics of writing. There was some evidence for this

in that pre-test Writing Quality mean scores were significantly lower than for the control and combined intervention groups (all $p<.01$, see table 9.14, p.320). However, there was no significant difference in Writing Quality mean scores in comparison to the most successful intervention, the Social Studies only condition. Moreover, the Write Away programme had led to even larger improvements in writing quality with upper elementary students (see table 9.6, p.291). The students' ratings of writing efficacy showed a very small positive effect (see table 9.18, p.327). Only three of the twenty students made comments, all of which were positive (see Chapter 9).

The control condition led to no impact upon writing quality during the same period (see table 9.17, p.326) and a negligible effect upon students' ratings of efficacy at writing (see table 9.18, p.327).

The study found that the both English specialists and Non-English specialists at high school can deliver writing strategy instruction and self-regulation strategies instruction, resulting in large positive impacts on writing quality. The greatest positive impact was from the intervention delivered with the highest implementation fidelity. The fact this was by the Non-English specialist is surprising. Although this study was only in one school, it strongly indicated that the most effective way to deliver an evidence-based programme to improve writing quality writing quality at high school level would be to train non-English specialists to deliver the Write Away programme. This could be altered to suit the range of different genres required by the different subjects. In addition, it was reported that the programme led to a reported increase in understanding of the subject, especially for the more able students.

10.8 Final Thoughts

From its origins some five and half thousand years ago as a means of supporting trade and tax collection, writing is now essential for a wide range of purposes, including education, employment, civic participation and social and spiritual purposes (European Commission, 2012; Graham et al., 2013). Unfortunately, many students fail to develop the writing skills required to meet their academic, occupational and personal goals and there has been a call for more research into writing interventions (Graham et al., 2014). Hopefully, this study will have contributed to the wider body of work in this important area. The survey revealed that many teacher respondents, particularly high school non-

English specialists, felt inadequately prepared by their ITE and In Service to teach writing. Many also felt there was insufficient IT available to support students' writing. However, this study showed that teachers, including high school non-English specialists, can be trained over two and a half hours or so to deliver evidence-based interventions which result in large positive impacts on writing quality for mainstream students. Furthermore, the Write Away programme, which included writing strategy instruction with self-regulation strategies and peer revision of each other's texts, led to a reported improvement in understanding of the content being studied. It is worth noting that many elementary pupils commented on their enjoyment of peer revision and editing in the study, which consequently reduced teachers' workloads. The greatest impacts on writing were seen at upper elementary level but the impact at high school level was still significant, especially for the non-English specialist delivery condition. This intervention should therefore be used both at upper elementary level and with non-English specialists at high school level in the appropriate genres. This applies to the UK and other Anglophone countries. Moreover, since interventions which include writing strategy instruction with self-regulation strategies have been successfully used in other languages, including German (Glaser et al., 2007) and Spanish (Torrance et al., 2007) it is reasonable to conclude that the Write Away intervention, suitably translated, could be utilised in other countries too.

Further research could usefully consider the impact of interventions not just on writing quality but also on the quality of the students' learning. Where this is demonstrated, the impetus from policy makers to uptake such interventions ought to be higher although there are already many evidence-based practices which are not used optimally, if at all. The use of modern IT alongside writing interventions which include writing strategy instruction and self-regulation, such as the Write Away programme, deserve investigation. This is particularly so for high school students who are likely to have reasonable typing skills.

At a personal level, the development of writing skills, albeit skills which can always be improved, has been essential for my educational and professional progress. I hope that this study can contribute to the broader body of work which might equip some students with the writing skills required to benefit from opportunities which might otherwise be closed to them.

References

Akella, N. (2012). The Real Deal on Collaborative Learning. *Education, 2*(3), 23-29.

Alfassi, M. (2009). The efficacy of a dialogic learning environment in fostering literacy. *Reading Psychology, 30*(6), 539-563.

Andrews, R., Torgerson, C., Beverton, S., Locke, T., Low, G., Robinson, A., Zhu, D. (2004). *The effect of grammar teaching (syntax) in English on 5 to 16 year olds' accuracy and quality in written composition.* London: EPPI-Centre, Social Science Research Unit, Institute of Education.

Baaijen, V.M., Galbraith, D., & de Glopper, K. (2014). Effects of writing beliefs and planning on writing performance. *Learning and Instruction*, 33, 81-91.

Barlett, J., Kotrlik, J. & Higgins, C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning and Performance Journal,* 19(1), 43-50.

Beck, N. & Fetherston, T. (2003). The Effects of Incorporating a Word Processor into a Year Three Writing Program. *Information Technology in Childhood Education Annual*, 139-161.

Bereiter, C. & Scardamalia, M. (1987). *The Psychology of Written Composition*. Hillsdale, N.J.: Lawrence Erlbaum Associates.

Boscolo, P., & Ascorti, K. (2004). Effects of collaborative revision on children's ability to write understandable narrative texts. In: L. Allal, L.,Chanquoy, & P. Largy (Eds.), *Revision: Cognitive and Instructional Processes* (pp.157–170). Boston: Kluwer Academic Publishers.

Brindley, R. & Schneider, J. (2002). Writing Instruction or Destruction Lessons to be Learned from Fourth grade Teachers' Perspectives on Teaching Writing. *Journal of Teacher Education, 53*(4), 328-341.

Brunstein, J. & Glaser, C. (2011). Testing a Path-Analytic Mediation Model of How Self-Regulated Writing Strategies Improve Fourth Graders' Composition Skills: A Randomized Controlled Trial. *Journal of Educational Psychology, 103(4),* 922-938.

Bruffee, K. (1984). Peer Tutoring and the "Conversation of Mankind". In Olsen, G. (Ed.), *Writing Centers: Theory and Administration* (pp.87-98). Urbana: NCTE

Bruffee, K. (1995). Sharing our toys: Cooperative learning versus collaborative learning. *Change*, *27*(1), 12-18.

Bulgren, J., Marquis, J., Lenz, B., Schumacher, J., and Deshler, D. (2009). Effectiveness of Question Exploration to Enhance Students' Written Expression of Content Knowledge and Comprehension. *Reading & Writing Quarterly: Overcoming Learning Difficulties*, *25*(4), 271-289.

Chang, K., Sung, Y. & Chen, I. (2002). The Effect of Concept Mapping to Enhance Text Comprehension and Summarization. *The Journal of Experimental Education*, *71*(1), 5–23.

Coe, M., Hanita, M., Nishioka, V., Smiley, R. (2011). *An Investigation of the Impact of the 6+1 Trait Writing Model on Grade 5 Student Writing Achievement. (NCEE 2012–4010).* Washington, DC: National Center for Education.

Cohen, L. & Manion, L. (1997). *Research Methods in Education* (5th ed.). London: Routledge.

Cohen, L., Manion, L. & Morrison, K (1997). *Research Methods in Education* (seventh edition). London: Routledge.

Corden, R. (2007). Developing Reading-Writing Connections: The Impact of Explicit Instruction of Literary Devices on the Quality of Children's Narrative Writing. *Journal of Research in Childhood Education, 21(3),* 269-289.

Cresswell, J. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed.). Thousand Oaks, CA: Sage.
Cresswell, J. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Los Angeles: Sage Publications.

Daniels, A. (2003). Composition Instruction: Using Technology to Motivate Students to Write. *Information Technology in Childhood Education Annual*, 157-177.

D & G Online (2016). Dumfries & Galloway Factual Information. Retrieved from http://www.dumfries-and-galloway.co.uk/facts/info.htm [30.03.16]

De La Paz, S. (1999). Self-Regulated Strategy Instruction in Regular Education Settings: Improving Outcomes for Students with and without Learning Disabilities. *Learning Disabilities Research and Practice, 14*(2), 92-106.

De La Paz, S. (2005). Teaching historical reasoning and argumentative writing in culturally and academically diverse middle school classrooms. *Journal of Educational Psychology, 97,* 139–158.

De La Paz, S. & Sherman, C. (2013). Revising Strategy Instruction in Inclusive Settings: Effects for English Learners and Novice Writers. *Learning Disabilities Research & Practice, 28*(3), 129–141.

De Smet, M., Broekkamp, H., Brand-Gruwel, S. & Kirschner, P. (2011). Effects of electronic outlining on students' argumentative writing performance. *Journal of Computer Assisted Learning, 27,* 557–574.

Dockrell, J.E., Marshall, C.R., Wyse, D. (2016) Teachers' reported practices for teaching writing in England. *Journal of Reading and Writing, 29*, **409-434.**

Durukan, E. (2011). Effects of Cooperative Integrated Reading and Composition (CIRC) Technique on Reading-Writing Skills. *Educational Research and Reviews, 6* (1), 102-109.

Education Scotland (2015). *CfE 15/16 Implementation Plan.* Retrieved from http://www.educationscotland.gov.uk/Images/CfE1516ImplementationPlanFINAL_tcm4-863258.pdf [28.07.15]

European Commission (2012). *EU High Level Group of Experts on Literacy Final Report.* Retrieved from http://ec.europa.eu/education/library/reports/literacy_en.pdf [28.07.15]

Ferretti, R., Lewis, W., & Andrews-Weckerley, S. (2009). Do goals affect the structure of students' argumentative writing strategies? *Journal of Educational Psychology, 101,* 577-589.

Ferretti, R., MacArthur, C., & Dowdy, N. (2000). The effects of an elaborated goal on the persuasive writing of students with learning disabilities and their normally achieving peers. *Journal of Educational Psychology, 92,* 694-702.

Fidalgo, R. & Torrance, M. (in press). Developing Writing Skills through Cognitive Self-Regulation Instruction. In Fidalgo, R., Harris, K. & Braaksma, M. (Eds.) *Design Principles for Teaching Effective Writing* (pp). Leiden: Brill Editions.

Fidalgo, R., Torrance, M. & Garcia, J. (2008). The long-term effects of strategy-focussed writing instruction for grade six students. *Contemporary Educational Psychology, 33*, 672-693.

Fidalgo, R., Torrance, M., & Lopez-Campelo, B. (in press) *A Cognitive Self-Regulation Program on Planning and Drafting Strategies* In Fidalgo, R., Harris, K. & Braaksma, M. (Eds.) Design Principles for Teaching Effective Writing. Leiden: Brill Editions.

Fidalgo, R., Torrance, M., Rijlaarsdamm, G., van den Bergh, H. & Lourdes Alvarez, M. (2015). Strategy-focused writing instruction: Just observing and reflecting on a model benefits 6th grade students. *Contemporary Educational Psychology, 41*, 37-50.

Gibson, S. (2008). Guided Writing Lessons: Second-Grade Students' Development of Strategic Behavior. *Reading Horizons, 48*(2), 111-132.

Glaser, C. & Brunstein, J. (2007). Improving Fourth-Grade Students' Composition Skills: Effects of Strategy Instruction and Self-Regulation Procedures. *Journal of Educational Psychology, 90*(2), 297-310.

Goldenberg, L., Meade, T., Midouhas, E. & Cooperman, N. (2011). Impact of a Technology-Infused Middle School Writing Program on Sixth-Grade Students' Writing Ability and Engagement. *Middle Grades Research Journal, 6*(2), 75-96.

Graham, S. & Harris, K. (2014). Conducting High Quality Writing Intervention Research: Twelve Recommendations. *Journal of Writing Research, 6*(2), 89-123.

Graham, S. & Harris, K. (2013). Designing an Effective Writing Programme. In Graham, S., MacArthur, C. & Fitzgerald, J. (Eds.), *Best Practices in Writing Instruction* (pp.3-25). New York: The Guildford Press.

Graham, S., Harris, K., Mason, L., Fink-Chorzempa, B., Moran, S. & Saddler, B. (2008). How do primary grade teachers teach handwriting? A national survey. *Reading and Writing, 21(*1), 49–69.

Graham, S. & Hebert, M. (2011). Writing to Read: A Meta-Analysis of the Impact of Writing and Writing Instruction on Reading. *Harvard Educational Review*, *81*(4), 710-744.

Graham, S. McKeown, D. Kiuhara, S. & Harris, K. (2012). A Meta-Analysis of Writing Instruction for Students in the Elementary Grades. *Journal of Educational Psychology*, *104*(4), 879-896.

Graham, S. & Perin, D. (2007). A Meta-Analysis of Writing Instruction for Adolescent Students. *Journal of Educational Psychology*, *99*(3), 445-476.

Graham, S. and Perin, D. (2007). *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools*. Washington: Alliance for Excellent Education. Retrieved from http://www.all4ed.org/files/WritingNext.pdf [11.12.12]

Grisham, D. & Wolsey, T. (2005). Improving Writing: Comparing the Responses of Eighth-Graders, Preservice Teachers and Experienced Teachers. *Reading & Writing Quarterly*, *21*(4), 315-330.

Grix, J. (2002). Introducing Students to the Generic Terminology of Social Research. *Politics*, *22*(3), 175-186.

Harris, K.R., Graham, S., (2009). Self-regulated strategy development in writing: Premises, evolution, and the future. *BJEP Monograph Series II: No. 6. Teaching and Learning Writing, 1*(1, Pt. 2), 113–135.

Harris, K.R., Graham, S., Mason, L. and Friedlander, B. (2008). *Powerful Writing Strategies for All Students*. Baltimore: Brookes Publishing.

Harris, K.R., Lane, K.L., Driscoll, S., Graham, S., Wilson,K., Sandmel, K., Brindle, M. & Schatschneider, C. (2012). Tier 1, Teacher-Implemented Self-Regulated Strategy

Development for Students with and without Behavioral Challenges: A Randomized Controlled Trial. *Elementary School Journal, 113*(2), 160-191.

Harris, K.R., Lane, K.L., Graham, S., Driscoll, S., Sandmel, K., Brindle, M., & Schatschneider, C. (2012). Practice-based professional development for self-regulated strategies development in writing: A randomized controlled study. *Journal of Teacher Education, 63*(2), 103-119.

Ho, B. (2006). Using the Process Approach to Teach Writing in 6 Hong Kong Primary Classrooms. *New Horizons in Education*, 53, 22-41.

Holbrook, A., Krosnick, J. & Pfent, A. (2008) The Causes and Consequences of Response Rates in Surveys by the News Media and Government Contractor Research Firms. In Lepkowski, J., Tucker, C., Brick, M., de Leeuw, E., Japec, L., Lavrakas, P., Link, W. & Sangster, R. (Eds.) *Advances in Telephone Survey Methodology* (pp.499-528). New Jersey: Wiley and Sons.

Horne, J.K, Ferrier, J., Singleton, C. & Read, C. (2012). Computerised assessment of handwriting and typing speed. *Educational and Child Psychology, 28*(2), 52-66.

Hough, T.M., Hixson, M.D., Decker, D. & Bradley-Johnson, S. (2012). The Effectiveness of an Explicit Instruction Writing Program for Second Graders. *Journal of Behavioral Education, 21,* 163–174.

Jampole, E.S., Mathews, F.N. & Konopak, B.C. (1994). Academically Gifted Students' Use of Imagery for Creative Writing. *The Journal of Creative Behavior, 28*(1), 1-15.

Johnson, R. & Onwuegbuzie, A. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher, 33* (7), 14-26.

Jones, S.M., Myhill, D.A. & Bailey, T. (2013). Grammar for writing? An investigation of the effects of contextualised grammar teaching on students' writing. *Reading and Writing, 26*(8), 1241-1263.

Kanala, S., Nousiainen, T., & Kankaanranta, M. (2013). Using a Mobile Application to support Children's Writing Motivation. *Interactive Technology and Smart Education, 10*(1) pp4-14.

Kieft, M., Rijlaarsdam, G. & Van Den Bergh, H. (2006). Writing as a learning tool: Testing the role of students' writing strategies. *European Journal of Psychology of Education*, *21*(1), 17-34.

Kiuhara, S., Graham, S. & Hawken, L. (2009). Teaching Writing to High School Students: A National Survey. *Journal of Educational Psychology*, *101*(1), 136-160.

Klein, P. & Samuels, B. (2010). Learning About Plate Tectonics Through Argument-Writing. *The Alberta Journal of Educational Research, 56*(2), 196-217.

Knudson, R. E. (1989). Effects of instructional strategies on children's informational writing. *The Journal of Educational Research, 83(2),* 91-96.

Krosnick, J. (1999). Survey Research. *Annual Review of Psychology, 50,* 537-567.

KUWCNEWS, (2012). Punctuation is Not Grammar. . . *Kaplan University Academic Support Centre*, [web log post] 4th May. Retrieved from https://kuwcnews.wordpress.com/2012/05/04/punctuation-is-not-grammar/ [05.11.15]

Learning and Teaching Scotland (2012). *Curriculum For Excellence: Experiences and Outcomes.* Retrieved from http://www.educationscotland.gov.uk/learningandteaching/thecurriculum/howisthecurriculumorganised/experiencesandoutcomes/ [26.04.15].

Li, X., Chu, S.K.W., Ki, W.W., & Woo, M. (2012). Using a wiki-based collaborative process writing pedagogy to facilitate collaborative writing among Chinese primary school students. *Australasian Journal of Educational Technology, 28*(1), 159-181.

Lowther, D.L., Ross, S.M. & Morrison, G.M. (2003). When Each One Has One: The Influences on Teaching Strategies and Student Achievement of Using Laptops in the Classroom. *Educational Technology Research and Development, 51*(3), 23–44.

Markulis, P. M., & Strang, D. R. (2002). Learning Cooperatively may not be Learning Collaborately! *Developments in Business Simulation and Experiential Learning, 29,* 114-120.

Martin, S. (2007). Interactive whiteboards and talking books: a new approach to teaching children to write? *Literacy, 41*(1), 26-34.

McCarthey, S. J., & Mkhize, D. (2013). Teachers' orientations towards writing. *Journal of Writing Research, 5*(1), 1-33. Retrieved from http://www.jowr.org/articles/vol5_1/JoWR_2013_vol5_nr1_McCarthey_Mkhize.pdf [16.10.13]

Moening, A. A., & Bhavnagri, N. P. (1996). Effects of the Showcase Writing Portfolio Process on First Graders' Writing. *Early Education and Development, 7*(2), 179-99.

Morrison, N. (2014). The Next Revolution In School Tech: Bring Your Own Device. *Forbes.* 19th January. Retrieved from http://www.forbes.com/sites/nickmorrison/2014/01/19/the-next-revolution-in-school-tech-bring-your-own-device/ [28.07.15]

Mouza. C. (2008). Learning with Laptops: Implementation and Outcomes in an Urban, Under-Privileged School. *Journal of Research on Technology in Education, 40*(4), 447-472.

Myhill, D.A., Jones, S.M. , Lines, H. & Watson, A. (2012). Re-thinking grammar: the impact of embedded grammar teaching on students' writing and students' metalinguistic understanding, *Research Papers in Education, 27*(2), 139-166.

Nulty, D. (2008). The adequacy of response rates to online and paper surveys: what can be done? *Assessment and Evaluation In Higher Education*, *33*(3), 301-314.

Oxford University Press (2015). *Oxford English Dictionary*. Retrieved From http://www.oed.com/view/Entry/154629?redirectedFrom=punctuation#eid [05.11.15]

Panitz, T. (1999). Collaborative versus Cooperative Learning: A Comparison of the Two Concepts Which Will Help Us Understand the Underlying Nature of Interactive Learning. December, [opinion paper] retrieved from http://files.eric.ed.gov/fulltext/ED448443.pdf [21.07.14]

Paquette, K. R., (2008). Integrating the 6+1 Writing Traits Model with Cross-Age Tutoring: An Investigation of Elementary Students' Writing Development. *Literacy Research and Instruction*, *48*(1), 28-38.

P. Papoulia-Tzelepi, P. & Spinthourakis, J.A. (2000). Greek Teachers' Personal Theory on Writing at the Elementary Level. *Mediterranean Journal of Educational Studies 5*(1), 55–75.

Purcell-Gates,V., Duke, N.K. & Martineau, J.A. (2007). Learning to read and write genre-specific text: Roles of authentic experience and explicit teaching. *Reading Research Quarterly*, *42*(1), 8–45.

Peterson, S.S. & McClay, J.K. (2007). Teaching Writing in Five Canadian Provinces: a new literacies analysis. *E–Learning*, *4*(3), 367-375.

Rogers, L. A. & Graham, S. (2008). A Meta-Analysis of Single Subject Design Writing Intervention Research. *Journal of Educational Psychology*, *100*(4), 879-906.

Rose, M. (2002). *Cognitive Dialogue, Interaction Patterns, and Perceptions of Graduate Students in an Online Conferencing Environment under Collaborative and Cooperative Structures.* [Unpublished doctoral dissertation] Department of Instructional Systems Technology, Indiana University. Retrieved from https://pdfs.semanticscholar.org/9cac/5f36ece7a942de52385737fad5cd2ae22aa4.pdf [22.07.14]

Rowley, K. & Meyer, N. (2003). The Effect of a Computer Tutor for Writers on Student Writing Achievement. *Journal of Educational Computing Research, 29*(2), 169-187.

Sahin, A. (2011). Effects of Jigsaw III technique on achievement in written expression. *Asia Pacific Education Review, 12(3),* 427-435.

Santangelo, T., Harris, K. & Graham, S. (2008). Using Self-Regulated Strategy Development to Support Students Who Have "Trubol Giting Thangs Into Werds". *Remedial and Special Education, 29*(2), 78-89.

Scardamalia, M., Bereiter, C., & Steinbach, R. (1984). Teachability of reflective processes in written composition. *Cognitive Science, 8,* 173-190.

Schunk, D. H. (1994). Student Motivation for Literacy Learning: The Role of Self-Regulatory Processes. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, April 1994. Author posted copy. Available from: http://files.eric.ed.gov/fulltext/ED367676.pdf

Schunk, D. H. & Swartz, C.W. (1993). Goals and Progress Feedback: Effects on Self-Efficacy and Writing Achievement. *Contemporary Educational Psychology,* 18(3), 337-54.

Schunk, D. H. & Swartz, C.W. (1991). Process Goals and Progress Feedback: Effects on Children's Self-Efficacy and Skills. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL, 1991. Author posted copy. Available from: https://archive.org/stream/ERIC_ED330713/ERIC_ED330713_djvu.txt

Schunk, D. H. & Zimmerman, B. J. (1997). Social origins of self-regulatory competence. *Educational Psychologist, 32,* 195-208.

Scott, S. & Sutton, R. (2009). Emotions and Change during Professional Development for Teachers: A Mixed Methods Study. *Journal of Mixed Methods Research, 3*(2), 151-171.

Scottish Government (2011). *Adult Literacies in Scotland 2020: Strategic Guidance.* Edinburgh: APS Group. Retrieved from http://www.gov.scot/Resource/Doc/339854/0112382.pdf [09.01.17]

Scottish Government (2013a). *Guidance on Developing Policies to Promote the Safe and Responsible Use of Mobile Technology in Schools*. Retrieved from http://www.gov.scot/Resource/0043/00438214.pdf [28.07.15]

Scottish Government (2014). *Scottish Government Urban Rural Classification 2013-2014* Retrieved from http://www.gov.scot/Resource/0046/00464780.pdf [26.02.15].

Scottish Government (2012). *Scottish Index of Multiple Deprivation.* Retrieved from http://22fa0f74501b902c9f11-8b3fbddfa1e1fab453a8e75cb14f3396.r26.cf3.rackcdn.com/simd_448749_v7_20121217.pdf
[26.02.15].

Scottish Government (2013b). *Scottish Neighbourhood Statistics Report.* Retrieved from http://www.sns.gov.uk/Reports/Report.aspx?ReportId=2&AreaTypeId=LA:Local Authority&Area Id=S12000006 [26.02.15].

Scottish Government (2010). *Statistics Publication Notice: Education Series: Reading and Writing Supporting Evidence.* Edinburgh: APS Group. Retrieved from http://www.scotland.gov.uk/Resource/Doc/303481/0095147.pdf [11.12.12]

Scottish Government (2013c). *Statistics Publication Notice: Education Series: Scottish Survey of Literacy and Numeracy 2012 (Literacy).* Edinburgh: APS Group. Retrieved from http://www.gov.scot/Resource/0042/00420483.pdf [16.07.15]

Scottish Government (2015). *Statistics Publication Notice: Education Series: Scottish Survey of Literacy and Numeracy 2014 (Literacy).* Edinburgh: APS Group. Retrieved from http://www.gov.scot/Resource/0047/00475898.pdf [16.07.15]

Scottish Government (2016). *National Improvement Framework for Scottish Education: Achieving Excellence and Equity.* Retrieved from www.gov.scot/Resource/0049/00491758.pdf [15.12.16]

Simmerman, S., Harward, S., Pierce, L., Peterson, N., Morrison, T., Korth, B., Billen, M. & Shumway, J. (2012). Elementary Teachers' Perceptions of Process Writing. *Literacy Research and Instruction, 51,* 292-307.

Simmons, D. C., Kameenui, E. J., Dickson, S., Chard, D. J., Gunn, B., & Baker, S. K. (1994). Integrating narrative reading comprehension and writing instruction for all learners. In C. K. Kinzer & D. J. Leu (Eds.), *Multidimensional aspects of literacy Research, theory, and practice* (pp. 572–582). Chicago: The National Reading Conference.

Snyder, I. (1993). The Impact of Computers on Students Writing: A Study on the Effects of Pens and Word Processors on Writing Context, Process and Product. *Australian Journal of Education,* 37(1), 5-25.

Spandel, V. (2000). Creating Writers through 6-Trait Writing Assessment and Instruction (3rd ed.). Boston: Allyn & Bacon.

Spar, I. (2004). The Origins of Writing. In: *Heilbrunn Timeline of Art History*. New York: The Metropolitan Museum of Art. Retrieved from: www.metmuseum.org/toah/hd-wrtg.htm [07.01.17]

Tracy, K.N. & Headley, K.N. (2013). I Never Liked to Read or Write: A Formative Experiment on the Use of a Nonfiction-Focused Writing Workshop in a Fourth Grade Classroom. *Literacy Research and Instruction, 52*(3), 173-191.

Torgerson, D., Torgerson, C., Ainsworth, H., Buckley, H., Heaps, C., Hewitt, C. & Mitchell, N. (2014) Improving Writing Quality Evaluation Report and Executive Summary. London: Education Endowment Foundation. Retrieved from: https://v1.educationendowmentfoundation.org.uk/uploads/pdf/EEF_Evaluation_Report_-_Improving_Writing_Quality_-_May_2014.pdf [26.06.17]

Torrance, M., Fidalgo, R., & García, J. N. (2007). The Teachability and Effectiveness of Cognitive Self-Regulation in Sixth Grade Writers. *Learning and Instruction, 17,* 265-285.

Visser,P., Krosnick, J., Marquette, J.& Curtin, M. (1996) Mail Surveys for Election Forecasting? An Evaluation of the Columbus Dispatch Poll. *The Public Opinion Quarterly, 60*(2), 181-227.

Vygotsksy, L. (1978). Interaction between Learning and Development. From Mind and Society pp79-91. Cambridge, MA: Harvard University Press. Reprinted in: Gauvin, M. & Cole, M. (Eds.) (1997). *Readings on the Development of Children* (2nd ed.) (pp. 29-36). New York: W. H. Freeman and Company. Retrieved from: http://www.psy.cmu.edu/~siegler/vygotsky78.pdf [20.01.17]

Wilson, R. (2012). *Big Writing: Raising Writing Standards: A powerful and effective whole-school approach.* Oxford: Oxford University Press. Retrieved from http://www.andrelleducation.com/product/raising-writing-standards-introduction/ [27.04.16]

Wolsey, T.D. & Grisham, D.L. (2007). Adolescents and the New Literacies: Writing Engagement. *Action in Teacher Education, 29*(2), 29-38.

Wong, B.Y.L., Hoskyn, M., Jai, D., Ellis, P. & Watson, K. (2008). The comparative efficacy of two approaches to teaching sixth graders opinion essay writing. *Contemporary Educational Psychology*, 33, 757–784.

Yang, J.C., Ko, H. W. & Chung, I. L. (2005). Web-based Interactive Writing Environment: Development and Evaluation. *Educational Technology & Society, 8(2),* 214-229.

Zhang, L. (2001). Examining the Effects of Drafting and Revising Patterns on Students' Writing Performance and the Implications in Writing Instruction. Paper presented at the Annual AERA conference Seattle, WA, April 2001.

Zheng, J. (2011). What Day of the Week Should You Send Your Survey? *Survey Monkey Blog*, [web based log] 16th August 2011. Retrieved from https://www.surveymonkey.com/blog/en/blog/2011/08/16/day-of-the-week/ [16.12.14].

Appendices

Appendix 4.1 Director of Education Email to Head Teachers re: Online Survey

Dear All,

Please forward this email to all your teaching staff, including peripatetic teachers, so that they might consider being part of the Local Authority Writing Survey.

Writing, one of the original '3 Rs', is becoming more important in our lives thanks to the ever-expanding reach of information technology. Despite this, precious little research is done in this area compared with its more popular sibling, reading. Kelton Green is a Local Authority Educational Psychologist conducting research into the teaching of writing in schools in the region in connection with Dundee University and the approval of Education Services.

Please follow this link to complete the survey: https://www.surveymonkey.com/s/XBM39PD . The survey took teachers in pilot schools, whose help was invaluable, less than 10 minutes to complete. Completing the Writing Survey provides an opportunity to reflect on your own practice. You do not need to write your name and no individuals will be identified or traced from this - confidentiality and anonymity are assured. By completing the survey you will be helping to inform future in-service training and further writing research both in the region and perhaps beyond. If you wish to discuss any aspects of the study please do not hesitate to contact Kelton by email WORK EMAIL or telephone XXXXX XXXXXX. I very much hope that you will feel able to participate. May I thank you, in advance, for your valuable co-operation.

Kind regards,

Name of Director

Appendix 4.2 Draft Teacher Writing Survey

Local Authority School Writing Survey

Dear Colleague,

I am a Local Authority employee conducting research into the teaching of writing in schools in the region in connection with Dundee University. Knowing something about writing teaching practices will help to inform future in-service training and research. The enclosed questionnaire should take no more than 10 minutes to complete and provides an opportunity to reflect on your own practice.

You do not need to write your name and no individuals will be identified or traced from this - confidentiality and anonymity are assured. Please complete both sides of the questionnaire and return it to me by XXXX in the envelope provided. Alternatively, you can complete this questionnaire online at XXXX.

If you wish to discuss any aspects of the study please do not hesitate to contact me. I very much hope that you will feel able to participate. May I thank you, in advance, for your valuable cooperation,

Yours sincerely,

Kelton Green

Kelton Green
Educational Psychologist

Service Address
Email to: *Work email*

School Writing Survey

Gender: Please tick✓ Female ☐ Male ☐

Total years teaching: ____ years

Age range of pupils you currently teach (please tick ✓ all which apply):

Lower primary (P1-P3) ☐ Upper Primary (P4-P7) ☐ Secondary (S1-S4) ☐ Upper Secondary (S5-S6) ☐

Subject Specialism when training:_____ What subject/s do you currently teach? _____

1. Please circle how often you implement the following writing teaching methods/activities. If you do not use the writing activity, please circle 'never'.

	Never	***Several Times A Year***	***Monthly***	***Several Times A Month***	***Weekly***	***Several Times A Week***	***Daily***	***Several Times A Day***
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Example: Teach Editing	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Teach Summarisation Skills	0	1	2	3	4	5	6	7
Provide Writing Strategy Instruction (One Or More Of Planning, Drafting, Revising, Editing)	0	1	2	3	4	5	6	7
Grammar Instruction Lessons	0	1	2	3	4	5	6	7
Teach Grammar In Context	0	1	2	3	4	5	6	7
Visualisation/Imagery Instruction	0	1	2	3	4	5	6	7
Provide Adult Feedback When Assessing Writing	0	1	2	3	4	5	6	7
Use Process (Learning) Goals	0	1	2	3	4	5	6	7
Use Product (Performance) Goals	0	1	2	3	4	5	6	7
Teach Self-Regulation	0	1	2	3	4	5	6	7
Use Co-operative Learning Approaches, Like 'Jigsaw'	0	1	2	3	4	5	6	7
Students Help Each Other Plan Writing	0	1	2	3	4	5	6	7
Students Help Each Other Draft Writing	0	1	2	3	4	5	6	7
Students Help Each Other Revise Writing (Amend/Alter)	0	1	2	3	4	5	6	7
Provide IT For Technology-Based Genres (Blogs, Emails, PowerPoints)	0	1	2	3	4	5	6	7
Provide Individual Laptop/Tablets With Internet Access When Writing	0	1	2	3	4	5	6	7
Provide IT For Producing Drafts	0	1	2	3	4	5	6	7
Provide IT For Revision Of Writing	0	1	2	3	4	5	6	7
Writing Time Where Writing Is The Main Focus	0	1	2	3	4	5	6	7

Now Turn Over

2. Please give a mark from 0 to 10 for the following statements, with 10 being Always and 0 being Never. Please circle the appropriate number for each statement.

a. How frequently students use pre-writing (drawing pictures or making notes) or planning as part of the writing process

Always Never

0 1 2 3 4 5 6 7 8 9 10

b. How frequently students write a draft as part of the writing process

Always Never

0 1 2 3 4 5 6 7 8 9 10

c. How frequently students revise (alter/amend) their work as part of the writing process

Always Never

0 1 2 3 4 5 6 7 8 9 10

d. How frequently students publish their work as part of the writing process

Always Never

0 1 2 3 4 5 6 7 8 9 10

3. Please give a mark from 0 to 10 for the following statements, with 10 being Very important and 0 being Not at all important. Please circle the appropriate number for each statement.

a. Evaluating ideas when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

b. Evaluating organisation when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

c. Evaluating voice when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

d. Evaluating sentence fluency when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

e. Evaluating use of spelling, punctuation and grammar when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

f. Evaluating handwriting quality when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

g. Evaluating visual layout of the work when assessing writing

Not At All Important Very Important

0 1 2 3 4 5 6 7 8 9 10

4. Please give a mark from 0 to 10 for the following statements, with 10 being strongly agree and 0 being strongly disagree. Please circle the appropriate number for each statement.

a. Writing is an essential skill for students

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9 10

b. My students have the writing skills they need to do work in my class

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9 10

c. My teacher training course adequately prepared me to teach writing

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9 10

d. I have received adequate In Service training to teach writing

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9 10

e. I am effective at teaching writing

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9 10

f. I enjoy teaching writing

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9 10

5. Please complete the following sentence in your own words:

The purpose of teaching writing is…

Appendix 4.3 Final Teacher Writing Survey

Dumfries and Galloway School Writing Survey

Research is being conducted into the teaching of writing in schools in Dumfries and Galloway in connection with Dundee University. Knowing something about writing teaching practices will help to inform future in-service training and research. The survey should take no more than 10 minutes to complete and provides an opportunity to reflect on your own practice. We expect to continue accepting responses until the response rate has become very low. We expect this to be within six to eight weeks.

You do not need to write your name and no individuals will be identified or traced from this - confidentiality and anonymity are assured.

The survey should take less than 10 minutes to complete.

Please select the 'Next' button below to continue.

Dumfries and Galloway School Writing Survey

1. Gender:

- ◯ Male
- ◯ Female

2. Total years teaching:

- ◯ 0 - 4 years
- ◯ 5 - 8 years
- ◯ 9 - 12 years
- ◯ 13 - 16 years
- ◯ 17 - 20 years
- ◯ 21+

3. Age range of pupils you currently teach (please tick all that apply):

☐ P1 ☐ P2 ☐ P3 ☐ P4 ☐ P5 ☐ P6 ☐ P7 ☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5 ☐

4. Subject specialism when training:

◯ General Primary

Specialism if applicable

-

◯ Secondary Teaching

Secondary subject/s

5. What subject/s do you currently teach?

Dumfries and Galloway School Writing Survey

6. School roll where you teach:

- ◯ 1 - 50
- ◯ 51 - 100
- ◯ 101 - 150
- ◯ 151 - 200
- ◯ 201 - 250
- ◯ 251 - 300
- ◯ 301 - 350
- ◯ 351 - 400
- ◯ 401 - 550
- ◯ 551 - 700
- ◯ 701 - 850
- ◯ 851 - 1100

Dumfries and Galloway School Writing Survey

7. For the following questions have in mind the year you teach that is in the middle of the range of years you currently teach. For example, you might teach P1-3 in which case you would have in mind P2.

However, if you rarely teach that year choose the year which you teach the most. In this example it might be P1.

Please tick the year you will be considering for the rest of these questions:

◯ P1 ◯ P2 ◯ P3 ◯ P4 ◯ P5 ◯ P6 ◯ P7 ◯ S1 ◯ S2 ◯ S3 ◯ S4 ◯ S5 ◯

Dumfries and Galloway School Writing Survey

8. Please tick how often you implement the following writing teaching methods/activities. If you do not use the writing activity, please circle 'never':

	Never	Several times a year	Monthly	Several times a month	Weekly	Several times a week	Daily	Several times a day
Teach summarisation skills	◯	◯	◯	◯	◯	◯	◯	◯
Provide writing strategy instruction (one or more of planning, drafting, revising, editing)	◯	◯	◯	◯	◯	◯	◯	◯
Grammar instruction lessons	◯	◯	◯	◯	◯	◯	◯	◯
Teach grammar in context	◯	◯	◯	◯	◯	◯	◯	◯
Visualisation/Imagery Instruction e.g. pupils asked to close their eyes and form images as passages filled with sensory descriptions and feelings are read aloud followed by discussion; may use a programme	◯	◯	◯	◯	◯	◯	◯	◯
Creativity instruction, i.e. encourage originality, not necessarily in writing lessons, may use a programme. E.g. non-judgemental thought showering (brainstorming); putting objects to other uses	◯	◯	◯	◯	◯	◯	◯	◯
Provide teacher or assistant feedback (or feedback from parents who have been specifically trained in how to do this) when assessing writing	◯	◯	◯	◯	◯	◯	◯	◯
Use process goals (learning goals) e.g. to learn how to use a set of steps to write a persuasive piece of writing	◯	◯	◯	◯	◯	◯	◯	◯
Use product goals (performance goals) e.g. to write a persuasive piece of writing or to write a five paragraph essay	◯	◯	◯	◯	◯	◯	◯	◯

Dumfries and Galloway School Writing Survey

8 Continued.

Please tick how often you implement the following writing teaching methods/activities. If you do not use the writing activity, please circle 'never':

	Never	Several times a year	Monthly	Several times a month	Weekly	Several times a week	Daily	Several times a day
Teach self-regulation i.e. how the student can generate thoughts, feelings and behaviours which are directed to attaining a specific goal e.g. Analysing the task, setting learning and/or task performance goals and choosing writing strategies related to genre features while adopting self-control processes that help focus on the task and optimize effort	○	○	○	○	○	○	○	○
Use structured cooperative learning approaches like 'Jigsaw' where students work together on a common learning task, the task is divided up and students are assigned roles.	○	○	○	○	○	○	○	○
Students help each other plan writing	○	○	○	○	○	○	○	○
Students help each other draft writing	○	○	○	○	○	○	○	○
Students help each other add/remove/ rearrange/replace text (revise)	○	○	○	○	○	○	○	○
Students help each other check spelling, punctuation, grammar, syntax etc of their text (edit/proofread)	○	○	○	○	○	○	○	○
Students evaluate each other's work	○	○	○	○	○	○	○	○
Provide IT for technology-based genres (blogs, emails, powerpoints)	○	○	○	○	○	○	○	○
Provide individual laptop / tablets with internet access when writing	○	○	○	○	○	○	○	○
Provide IT for producing drafts	○	○	○	○	○	○	○	○
Provide IT for addition/removal/rearrangement/replacement of text (revision)	○	○	○	○	○	○	○	○
Provide IT for checking spelling, punctuation, grammar, syntax etc of their text (editing/proofreading)	○	○	○	○	○	○	○	○
Writing time where writing is the main focus	○	○	○	○	○	○	○	○

Dumfries and Galloway School Writing Survey

9. Please give a mark from 0 to 10 for the following statements, with 10 being Always and 0 being Never. Please tick the appropriate number for each statement:

a. How frequently students use pre-writing (drawing pictures or making notes) or planning as part of the writing process:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

b. How frequently students write a draft as part of the writing process:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

c. How frequently students add/remove/ rearrange/replace (revise) text as part of the writing process:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

d. How frequently students check spelling, punctuation, grammar, syntax etc of their text (edit/proofread) as part of the writing process:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

e. How frequently students make their work available to an audience, as part of the writing process:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

Dumfries and Galloway School Writing Survey

10. Are students allowed to use personally-owned electronic devices listed below at school for writing activities?

	No	Yes
Laptop	◯	◯
Tablet	◯	◯
Notebook or Netbook	◯	◯
Mobile or Smartphone	◯	◯

11. Please give a mark from 0 to 10 for the following statements, with 10 being strongly agree and 0 being strongly disagree. Please tick the appropriate number for each statement:

a. Students have sufficient IT access to support their writing activities:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

b. I would provide more IT access to support student writing activities if there were more desktop computers, laptops, notebooks or netbooks available:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

c. I would provide more IT access to support student writing activities if there were more tablets available:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

d. I would provide more IT access to support student writing activities if there were more smartphones/mobiles available:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

e. I would provide more IT access to support student writing activities if there were more up-to-date devices available:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

f. I would provide more IT access to support student writing activities if the internet speed and/or bandwidth were better for the students:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

g. I would provide more IT access to support student writing activities if I had more training on how to do so:

◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10

Dumfries and Galloway School Writing Survey

12. Please give a mark from 0 to 10 for the following statements, with 10 being Very important and 0 being Not at all important. Please tick the appropriate number for each statement:

a. Evaluating ideas when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

b. Evaluating organisation when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

c. Evaluating voice when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

d. Evaluating sentence fluency when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

e. Evaluating use of spelling, punctuation and grammar when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

f. Evaluating handwriting quality when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

g. Evaluating visual layout of the work when you assess writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

Dumfries and Galloway School Writing Survey

13. Please give a mark from 0 to 10 for the following statements, with 10 being strongly agree and 0 being strongly disagree. Please tick the appropriate number for each statement:

a. Writing is an essential skill for students:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

b. My students have the writing skills they need to do work in my class:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

c. My teacher training course adequately prepared me to teach writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

d. I have received adequate In Service training to teach writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

e. I am effective at teaching writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

f. I enjoy teaching writing:

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

Dumfries and Galloway School Writing Survey

14. Do you have any other thoughts or comments?

Dumfries and Galloway School Writing Survey

Thank you

Thank you for taking the time to complete the survey. You can now submit your response using the button below.

If you wish to review your answers before submitting then you can use the 'previous' and 'next' buttons to navigate through the survey.

Once submitted using the button below your answers will be used to inform further research in the region and future In Service training. Thank you again.

Appendix 5.1 Total Number of Teacher Responses per Question in Order of Size; Includes Respondents Who Did Not Answer Any Writing Questions.

Question	Number Of Respondents Who Answered The Question	Number Of Respondents Who Did Not Answer The Question
Gender	411	5
Total Years Teaching	407	9
School Roll	406	10
Age Ranges Teach	404	12
Use Process Goals (Learning Goals)	343	73
Use Product Goals (Performance Goals)	342	74
Creativity Instruction	341	75
Visualisation/Imagery Instruction	340	76
Provide Teacher Or Assistant Feedback (Or Feedback From Specifically Trained Parents) When Assessing Writing	340	76
Median Year Taught	339	77
Teach Grammar In Context	337	79
Grammar Instruction Lessons	336	80
Provide Writing Strategy Instruction (One Or More Of Planning, Drafting, Revising, Editing)	332	84
Students Help Each Other Plan Writing	313	103
Students Help Each Other Check Spelling, Punctuation, Grammar, Syntax Etc Of Their Text (Edit/Proofread)	312	104
Provide Individual Laptop / Tablets With Internet Access When Writing	310	106
Use Structured Cooperative Learning Approaches Like ‘Jigsaw’	309	107
Students Help Each Other Draft Writing	309	107
Writing Time Where Writing Is The Main Focus	309	107
Frequency Students Edit	309	107
Students Evaluate Each Other's Work	308	108
Frequency Students Revise	308	108

Question	Number Of Respondents Who Answered The Question	Number Of Respondents Who Did Not Answer The Question
Students Help Each Other Add/Remove/ Rearrange/Replace Text (Revise)	307	109
Provide IT For Technology-Based Genres (Blogs, Emails, PowerPoints)	307	109
Provide IT For Addition/Removal/Rearrangement/Replacement Of Text (Revision)	307	109
Frequency Students Prewriting /Planning	307	109
Frequency Students Draft	307	109
Frequency Students Make Work Available To Audience As Part Of Writing Process	307	109
Students Have Sufficient IT To Support Their Writing Activities	305	111
Teach Summarisation Skills	304	112
Provide IT For Producing Drafts	304	112
Provide IT For Checking Spelling, Punctuation, Grammar, Syntax Etc Of Their Text (Editing/Proofreading)	304	112
I Would Provide More IT Access To Support Student Writing Activities If There Were More Tablets Available	303	113
I Would Provide More It Access To Support Student Writing Activities If There Were More Desktop Computers, Laptops, Notebooks Or Netbooks Available:	302	114
I Would Provide More IT Access To Support Student Writing Activities If There Were More Smartphones/Mobiles Available:	301	115
I Would Provide More IT Access To Support Student Writing Activities If The Internet Speed And/Or Bandwidth Were Better For Students	301	115
I Would Provide More IT Access To Support Student Writing Activities If There Were More Up-To-Date Devices Available	300	116
Evaluating Ideas When You Assess Writing:	300	116
Evaluating Sentence Fluency When You Assess Writing	300	116
Evaluating Use Of Spelling, Punctuation And Grammar When You Assess Writing:	300	116
Teach Self-Regulation	299	117
Evaluating Handwriting Quality When You Assess Writing	299	117
Evaluating Visual Layout Of The Work When You Assess Writing	299	117
Writing Is An Essential Skill For Students	299	117

Question	Number Of Respondents Who Answered The Question	Number Of Respondents Who Did Not Answer The Question
My Students Have The Writing Skills They Need To Do Work In My Class	299	117
Evaluating Organisation When You Assess Writing:	298	118
I Would Provide More IT Access To Support Student Writing Activities If I Had More Training On How To Do So	297	119
Evaluating Voice When You Assess Writing	296	120
I Have Received Adequate In Service Training To Teach Writing:	296	120
My Teacher Training Course Adequately Prepared Me To Teach Writing	295	121
I Am Effective At Teaching Writing	295	121
I Enjoy Teaching Writing	295	121
What Subjects You Currently Teach	281	135
Students Allowed To Use Personal Laptop	270	146
Students Allowed To Use Personal Notebook Or Netbook	270	146
Students Allowed To Use Personal Tablet	269	147
Students Allowed To Use Personal Mobile Or Smartphone	268	148
For Elementary Only Subject Specialism When Trained	247	169
For High School Only Subject Specialism When Trained	139	277
Do you have any other thoughts or comments?	94	322

Appendix 5.2 Total Number of Responses per Question in Order of Size; Excludes Respondents Who Did Not Answer Any Writing Questions.

Question	Number of Respondents Who Answered the Question
Gender	345
Grade Levels Taught	344
Use Process Goals (Learning Goals)	343
Length Of Teaching Experience	342
Use Product Goals (Performance Goals)	342
Creativity Instruction	341
School Roll	340
Visualisation/Imagery Instruction	340
Provide Teacher Or Assistant Feedback (Or Feedback From Specifically Trained Parents) When Assessing Writing	340
Teach Grammar In Context	337
Grammar Instruction Lessons	336
Median Grade Level	334
Provide Writing Strategy Instruction (One Or More Of Planning, Drafting, Revising, Editing)	332
Students Help Each Other Plan Writing	313
Students Help Each Other Check Spelling, Punctuation, Grammar, Syntax Etc. Of Their Text (Edit/Proofread)	312
Provide Individual Laptop / Tablets With Internet Access When Writing	310
Frequency Of Students Checking Spelling, Punctuation, Grammar, Syntax Etc. Of Their Text (Edit/Proofread) As Part Of The Writing Process	309
Use Structured Cooperative Learning Approaches Like ‘Jigsaw’ Where Students Work Together On A Common Learning Task	309
Students Help Each Other Draft Writing	309
Writing Time Where Writing Is The Main Focus	309
Students Evaluate Each Other's Work	308
Students Help Each Other Add/Remove/Rearrange/Replace Text (Revise)	308
Frequency Of Students Adding/Removing/Rearranging/Replacing (Revising) Text As Part Of The Writing Process	307
Frequency Of Students Using Prewriting/Planning As Part Of The Writing Process	307
Frequency Of Students Writing A Draft As Part Of The Writing Process	307
Frequency Of Students Making Their Work Available To An Audience As Part Of The Writing Process	307

Question	Number of Respondents Who Answered the Question
Provide IT For Technology-Based Genres (Blogs, Emails, Powerpoints)	307
Provide It For Addition/Removal/Rearrangement/Replacement Of Text (Revision)	307
Students Have Sufficient IT Access To Support Their Writing Activities	304
Provide IT For Producing Drafts	304
Provide IT For Checking Spelling, Punctuation, Grammar, Syntax Etc Of Their Text (Editing/Proofreading)	304
I Would Provide More IT Access To Support Student Writing Activities If There Were More Tablets Available	303
I Would Provide More IT Access To Support Student Writing Activities If There Were More Desktop Computers, Laptops, Notebooks, Netbooks	301
I Would Provide More IT Access To Support Student Writing Activities If There Were More Smartphones/Mobiles Available	301
I Would Provide More IT Access To Support Student Writing Activities If The Internet Speed And/Or Bandwidth Were Better For Students	301
I Would Provide More IT Access To Support Student Writing Activities If There Were More Up-To-Date Devices Available	300
Evaluating Ideas When You Assess Writing	300
Evaluating Sentence Fluency When You Assess Writing	300
Evaluating Use Of Spelling, Punctuation And Grammar When You Assess Writing	300
Teach Summarisation Skills	299
Teach Self-Regulation	299
Evaluating Handwriting Quality When You Assess Writing	299
Evaluating Visual Layout Of The Work When You Assess Writing	299
Writing Is An Essential Skill For Students	299
My Students Have The Writing Skills They Need To Do Work In My Class	298
Evaluating Organisation When You Assess Writing	298
I Would Provide More IT Access To Support Student Writing Activities If I Had More Training On How To Do So	296
Evaluating Voice When You Assess Writing	296
I Have Received Adequate In Service Training To Teach Writing	295
I Am Effective At Teaching Writing	294
I Enjoy Teaching Writing	294
My Teacher Training Course Adequately Prepared Me To Teach Writing	292
Permission For Student Use Of Personally Owned Devices At School For Writing Activities: Laptops	271
Permission For Student Use Of Personally Owned Devices At School For Writing Activities: Notebook Or Netbook	270

Question	**Number of Respondents Who Answered the Question**
Permission For Student Use Of Personally Owned Devices At School For Writing Activities: Tablets	269
Permission For Student Use Of Personally Owned Devices At School For Writing Activities: Mobile Or Smartphone	268
Subject/s Currently Teach	241
Subject Specialism When Training (Elementary)	209
Further Subject Specialism When Training (High School)	127
Subject Specialism When Training (High School)	112
Do You Have Any Other Thoughts Or Comments?	89
Further Subject Specialism (Elementary)	27

Appendix 7.1 Writing Task Assessment Rubric

Compare and Contrast Essay Writing Task Rubric

Category	4	3	2	1
Opening	• States what will be doing in the text • Names the two items • Gives a reason why this is interesting or important	• States what will be doing in the text (similarities and differences) • Names the two items	• States what will be doing in the text (similarities or differences) • Names the two items	• No introduction
Body	• At least one paragraph on similarities • At least one paragraph on differences • Includes only information relevant to the comparison/contrast • All paragraph breaks used appropriately	• At least one paragraph/section on similarities • At least one paragraph/section on differences • Some paragraph breaks used appropriately	• At least one section(2+ ideas) on similarities or at least one section (2+ ideas) on differences • No use of paragraph breaks	• Ideas in body of text not in a logical order • No use of paragraph breaks
Conclusion	All: • Summarises briefly what has been written • Judges how similar and different the items are • States what has been learnt or gives a prediction or personal view	Two of: • Summarises briefly what has been written • Judges how similar and different the items are • States what has been learnt or gives a prediction or personal view	One of: • Summarises briefly what has been written • Judges how similar and different the items are • States what has been learnt or gives a prediction or personal view	• No conclusion at the end
Conventions (punctuation, spelling and grammar)	• Contains one or less punctuation, spelling or grammar errors per paragraph • Errors are not distracting.	• Contains two punctuation, spelling or grammar errors per paragraph • Errors do not detract from the general flow of the essay	• Contains three or four punctuation, spelling or grammar errors per paragraph • Errors detract from the flow and the meaning	• Contains more than 5 punctuation, spelling or grammar errors per paragraph • Errors make reading too time-consuming

Category	4	3	2	1
Transitions	All: • Transitions used to compare (e.g. likewise, both…) or contrast (e.g. larger, unlike, yet) • Transitions used to link ideas within paragraphs (e.g. firstly…) • Transitions used to link paragraphs/sections (e.g. in conclusion, topic sentences for sims/diffs); not headings	<u>Two of:</u> • Transitions used to compare (e.g. likewise, both…) or contrast (e.g. larger, unlike, yet) • Transitions used to link ideas within paragraphs (e.g. firstly…) • Transitions used to link paragraphs/sections (e.g. in conclusion, topic sentences for sims/diffs); not headings	<u>One of:</u> • Transitions used to compare (e.g. likewise, both…) or contrast (e.g. larger, unlike, yet) • Transitions used to link ideas within paragraphs (e.g. firstly…) • Transitions used to link paragraphs/sections (e.g. in conclusion, topic sentences for sims/diffs); not headings	Transitions are not used
Language	• Language is very appropriate to purpose and audience (e.g. consistent use of third person); language is clear; variety of sentences; flows smoothly • Uses variety of well-chosen adjectives and/or adverbs, verbs and nouns	• Language is appropriate to purpose and audience; some sentence variety • Varied use of adjectives or verbs	• Some language is inappropriate to purpose and audience (e.g. "Let's go"; "I've been told to write about…"); sentences may be very repetitive • Writing is simple but has a few interesting/varied verbs (e.g. communicate) or uses adjectives	• Language inappropriate to purpose and audience (e.g. two sentences may not make sense (*not spelling*); wrong genre); may not be proper sentences • Writing is composed of only simple nouns and verbs (e.g. look, hear, went, phone); may use a word incorrectly

Use best fit. For language: aptness much more important than vocab.

For conventions: effect of the errors more important than the number of them.

Appendix 7.2 Pupil/Student Pre-test Questionnaire

Student Questionnaire

If you agree to your responses being used for research purposes and publication, please complete the questions below:

1. How much do you enjoy writing? Please circle a number from 0 to 7 with 0 being “Not At All” and 7 being “A Very Great Deal”.

   Not At All **A Very Great Deal**

   0 1 2 3 4 5 6 7

2. How good are you at extended writing compared with other students in your class? Please circle a number from 0 to 7 with 0 being “Very Poor” and 7 being “Excellent”.

   Very Poor **Excellent**

   0 1 2 3 4 5 6 7

Appendix 7.3 Pupil/Student Post-test Questionnaire

Student Final Questionnaire

1. How much do you enjoy writing? Please circle a number from 0 to 7 with 0 being “Not At All” and 7 being “A Very Great Deal”.

Not At All **A Very Great Deal**

0 1 2 3 4 5 6 7

2. How good are you at extended writing compared with other students in your class? Please circle a number from 0 to 7 with 0 being “Very Poor” and 7 being “Excellent”.

Very Poor **Excellent**

0 1 2 3 4 5 6 7

Question 3 is only for students who have completed the *Write Away* intervention.

3. How much have you enjoyed doing this writing programme? Please circle a number from 0 to 7 with 0 being “Not At All” and 7 being “A Very Great Deal”.

Not At All **A Very Great Deal**

0 1 2 3 4 5 6 7

4. Any Comments?

Appendix 7.4 Pre-test Teacher Questionnaires

Dear Colleague,

Research is being conducted into the teaching of writing in schools in the Local Authority in connection with Dundee University and this will help to inform future In-Service training and research. This survey is part of the research into the *Write Away* intervention. The survey should take no more than 5 minutes to complete and provides an opportunity to reflect on your own practice.

No individuals will be identified or traced from this. Your name is required at the point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

Please complete the questionnaire and return it to me via the pony by XXXX in the envelope provided. If you wish to discuss any aspects of the study please do not hesitate to contact me. I very much hope that you will feel able to participate. May I thank you, in advance, for your valuable co-operation.

Yours sincerely,

Kelton

Kelton Green CPsychol AFBPsS, Educational Psychologist
Service address, Tel XXXXXXXXXX, work email

Primary Teacher Questionnaire

Name: (NB Will be replaced by a number)

1. Please circle a number from 0 to 9 for the following statements, with 9 being Always and 0 being Never.

a. How frequently P6 students use prewriting (drawing pictures or making notes) or planning as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

b. How frequently P6 students write a draft as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

c. How frequently P6 students add/remove/ rearrange/replace (revise) text as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

d. How frequently P6 students check spelling, punctuation, grammar, syntax etc of their text (edit/proofread) as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

e. How frequently P6 students make their work available to an audience, as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

NOW TURN OVER

2. Please circle a number from 0 to 9 for the following statements, with 9 being strongly agree and 0 being strongly disagree.

a. Writing is an essential skill for P6 students:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

b. My P6 students have the writing skills they need to do work in my class:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

c. P6 students have sufficient IT access to support their writing activities:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

d. My teacher training course adequately prepared me to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

e. I have received adequate In Service training to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

f. I am effective at teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

g. I enjoy teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

3. **Do you have any other thoughts or comments?**

By completing this questionnaire you agree to the conditions that are described above and for the use of the information for research purposes and publication.

Thank you for taking the time to complete this.
Put it in the envelope provided and put it into the pony in your office.

Dear Colleague,

Research is being conducted into the teaching of writing in schools in Dumfries and Galloway in connection with Dundee University and this will help to inform future In-Service training and research. This survey is part of the research into the *Write Away* intervention. The survey should take no more than 5 minutes to complete and provides an opportunity to reflect on your own practice.

No individuals will be identified or traced from this. Your name is required at the point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

Please complete the questionnaire and return it to me via the school office by XXXX in the envelope provided. If you wish to discuss any aspects of the study please do not hesitate to contact me. I very much hope that you will feel able to participate. May I thank you, in advance, for your valuable co-operation.

Yours sincerely,

Kelton

Kelton Green CPsychol AFBPsS, Educational Psychologist
Service address, Tel XXXXXXXXXXX, work email

S2 Teacher Questionnaire

Name: (Will be replaced by a number)

Subject Area: Please tick✓ English ☐ Social Studies ☐

1. Please circle a number from 0 to 9 for the following statements, with 9 being Always and 0 being Never.

a. How frequently S2 students use prewriting (drawing pictures or making notes) or planning as part of the writing process:

Never Always

0 1 2 3 4 5 6 7 8 9

b. How frequently S2 students write a draft as part of the writing process:

Never Always

0 1 2 3 4 5 6 7 8 9

c. How frequently S2 students add/remove/ rearrange/replace (revise) text as part of the writing process:

Never Always

0 1 2 3 4 5 6 7 8 9

d. How frequently S2 students check spelling, punctuation, grammar, syntax etc of their text (edit/proofread) as part of the writing process:

Never Always

0 1 2 3 4 5 6 7 8 9

e. How frequently S2 students make their work available to an audience, as part of the writing process:

Never Always

0 1 2 3 4 5 6 7 8 9

NOW TURN OVER

2. Please circle a number from 0 to 9 for the following statements, with 9 being strongly agree and 0 being strongly disagree.

a. Writing is an essential skill for S2 students:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

b. My S2 students have the writing skills they need to do work in my class:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

c. S2 students have sufficient IT access to support their writing activities:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

d. My teacher training course adequately prepared me to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

e. I have received adequate In Service training to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

f. I am effective at teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

g. I enjoy teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

3. **Do you have any other thoughts or comments?**

By completing this questionnaire you agree to the conditions that are described above and for the use of the information for research purposes and publication.

Thank you for taking the time to complete this.
Put it in the envelope provided and hand in to the school office for collection.

Appendix 7.5 Post-test Teacher Questionnaires

Dear Colleague,

Research is being conducted into the teaching of writing in schools in the Local Authority in connection with Dundee University and this will help to inform future In-Service training and research. This survey is part of the research into the *Write Away* intervention. The survey should take no more than 5 minutes to complete and provides an opportunity to reflect on your own practice.

No individuals will be identified or traced from this. Your name is required at the point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

Please complete the questionnaire and return it to me via the pony within the next two weeks in the envelope provided. If you wish to discuss any aspects of the study please do not hesitate to contact me. I very much hope that you will feel able to participate. May I thank you, in advance, for your valuable co-operation.

Yours sincerely,

Kelton

Kelton Green CPsychol AFBPsS, Educational Psychologist
Service address, Tel XXXXXXXXXXX, work email

Primary Teacher Questionnaire

Name: (NB Will be replaced by a number)

1. Please circle a number from 0 to 9 for the following statements, with 9 being Always and 0 being Never.

a. How frequently P6 students use prewriting (drawing pictures or making notes) or planning as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

b. How frequently P6 students write a draft as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

c. How frequently P6 students add/remove/ rearrange/replace (revise) text as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

d. How frequently P6 students check spelling, punctuation, grammar, syntax etc of their text (edit/proofread) as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

e. How frequently P6 students make their work available to an audience, as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

NOW TURN OVER

2. Please circle a number from 0 to 9 for the following statements, with 9 being strongly agree and 0 being strongly disagree.

a. Writing is an essential skill for P6 students:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

b. My P6 students have the writing skills they need to do work in my class:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

c. P6 students have sufficient IT access to support their writing activities:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

d. My teacher training course adequately prepared me to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

e. I have received adequate In Service training to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

f. I am effective at teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

g. I enjoy teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

3. *This question is only for those who trialled the Write Away programme.* Please circle a number from 0 to 9 for the following statements, with 9 being strongly agree and 0 being strongly disagree.

a. P6 students' writing skills have improved as a consequence of the Write Away programme.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

b. I will use the Write Away programme again.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

c. I enjoyed teaching writing using the Write Away programme.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

d. The Write Away programme has increased my confidence in teaching writing.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

4. **Do you have any other thoughts or comments?**

By completing this questionnaire you agree to the conditions that are described above and for the use of the information for research purposes and publication.
Thank you for taking the time to complete this.

Dear Colleague,

Research is being conducted into the teaching of writing in schools in the Local Authority in connection with Dundee University and this will help to inform future In-Service training and research. This survey is part of the research into the *Write Away* intervention. The survey should take no more than 5 minutes to complete and provides an opportunity to reflect on your own practice.

No individuals will be identified or traced from this. Your name is required at the point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

Please complete the questionnaire and return it to me via the school office by XXXX in the envelope provided. If you wish to discuss any aspects of the study please do not hesitate to contact me. I very much hope that you will feel able to participate. May I thank you, in advance, for your valuable co-operation.

Yours sincerely,

Kelton

Kelton Green CPsychol AFBPsS, Educational Psychologist
Service address, Tel XXXXXXXXXXX, work email

S2 Teacher Questionnaire

Name: (Will be replaced by a number)

Subject Area: Please tick✓ English ☐ Social Studies ☐

1. Please circle a number from 0 to 9 for the following statements, with 9 being Always and 0 being Never.

a. How frequently S2 students use prewriting (drawing pictures or making notes) or planning as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

b. How frequently S2 students write a draft as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

c. How frequently S2 students add/remove/ rearrange/replace (revise) text as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

d. How frequently S2 students check spelling, punctuation, grammar, syntax etc of their text (edit/proofread) as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

e. How frequently S2 students make their work available to an audience, as part of the writing process:

Never Always
0 1 2 3 4 5 6 7 8 9

NOW TURN OVER

2. Please circle a number from 0 to 9 for the following statements, with 9 being strongly agree and 0 being strongly disagree.

a. Writing is an essential skill for S2 students:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

b. My S2 students have the writing skills they need to do work in my class:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

c. S2 students have sufficient IT access to support their writing activities:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

d. My teacher training course adequately prepared me to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

e. I have received adequate In Service training to teach writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

f. I am effective at teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

g. I enjoy teaching writing:

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

3. *This question is only for those who trialled the Write Away programme.* Please circle a number from 0 to 9 for the following statements, with 9 being strongly agree and 0 being strongly disagree.

a. S2 students' writing skills have improved as a consequence of the Write Away programme.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

b. I will use the Write Away programme again.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

c. I enjoyed teaching writing using the Write Away programme.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

d. The Write Away programme has increased my confidence in teaching writing.

Strongly Disagree Strongly Agree

0 1 2 3 4 5 6 7 8 9

4. **Do you have any other thoughts or comments?**

5. **Do you wish to participate in a focus group? Please tick✓ Yes ☐ No ☐**
If so, please write your email here: _____

By completing this questionnaire you agree to the conditions that are described above and for the use of the information for research purposes and publication. Thank you for taking the time to complete this. Put it in the envelope provided and hand in to the school office for collection.

Appendix 7.6 Observation Schedule

Observation Schedule

Teacher: Date:
Time: School:
Interv./Cont.: Step of programme working on:
No. Students: No. Adults:
No. of Tables: (Number the tables/groups)

- Every two minutes record total number of students on task (i.e. doing as teacher instructed)
- In between, alternate between observing a different table/group and the teacher
- For target table consider: working on programme? Individual/collaborative? Anything of note?
- For Teacher consider: working on programme? Addressing class, group, individuals? Praise? Coaching?

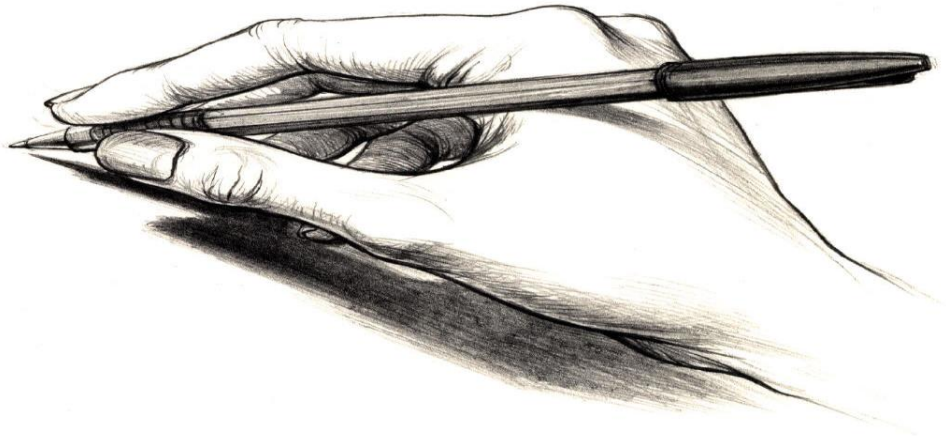
Time	**Total In Class On Task**	**Table No.**	**Teacher/Table Observations**
0		Teach.	
2			
4		Teach.	
6			
8		Teach.	
10			

Time	Total In Class On Task	Table No.	Teacher/Table Observations
12		Teach.	
14			
16		Teach.	
18			
20		Teach.	
22			
24		Teach.	
26			
28		Teach.	
30			
32		Teach.	
34			

36		Teach.	
38			
40		Teach.	
42			
44		Teach.	
46			
48		Teach.	
50			

Appendix 7.7 Write Away Elementary Intervention Programme

Write Away



Primary P6 Programme and Rationale

Kelton Green
Local Authority Psychological Service

The steps of the programme need to be completed in order. The number of lessons required for each step will be dependent upon the context.

Teaching Elements	Rationale	Purpose
Step 1 – Introduce the *Write Away* process, genre knowledge and how to evaluate writing. Explain it is part of research being done into improving writing. Anyone with objections can do independent written work instead. Brainstorm and discuss how and what extended writing they currently do in school. Discuss the importance of writing well: for communication, for academic assessments and for learning. Introduce programme: the aim is to improve the quality of their extended writing. Introduce Mnemonic GRIST. This is useful for producing and evaluating writing. The mnemonics need learning. **Goals** e.g. inform, describe, narrate, persuade. Different goals lead to different genre choices, e.g. narrate – story, recount, script; persuasive essays, adverts; inform – e.g. cause and effect, problem and solution essays. **Reader** (a.k.a. audience) must be considered e.g. language style, language features, vocabulary, maintaining interest, length. **Ideas** need to be pertinent ones, answering the question, linked together. Put ideas in paragraphs with a topic sentence. **Structure**: tend to have introduction, development and conclusion. Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, in a sensible order. Each paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps. **Tied together** Use transition words (linking words/phrases) to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. Use a good model compare and contrast essay to support this. Discuss the meaning of compare and contrast: to consider similarities and differences. To compare also means this while to contrast is to consider only differences. When might they do this? Compare the good compare and contrast essay with a mediocre quality one in pairs then discuss as a class, looking at the areas above. Different genres have different structures; can they see a structure in the good one? The simplest compare and contrast structure to use is: introduction, similarities, differences and conclusion. Discuss the "How to Structure your Compare and Contrast Essay" sheet. Has the good essay included these features? Refer to the mnemonics at other times during the school day. Encourage the children to learn them.	Activate prior knowledge (Lassonde and Richards, in Graham et al., 2013) Set a process (learning) goal (Schunk et al., 1991, 1993). Provide product goals (Graham et al., 2007; Rogers et al., 2008). Increase motivation and feelings of self-efficacy by setting and evaluating progress towards goals. (Schunk, 1994). Help students remember product goals through mnemonics (De la Paz, 1999; Fidalgo et al., 2008). Provide text structure instruction (Graham et al., 2012; Fidalgo et al., 2015) Study good models (Corden, 2007; Knudson, 1989). Compare good and mediocre models with reference to a product goals mnemonic (Fidalgo et al., 2015). Teach knowledge of genre features (Hoogeveen, 2012)	activate prior knowledge, motivation, process goal, models, product goal, text structure,

Teaching Elements	Rationale	Purpose
Step 2 Provide and model the planning strategy Remind of GRIST. Writing is a process. You could show them a piece of manuscript, such as Dickens, showing the changes. Think, plan, draft, revise, edit. It is important that pupils know that this does not have to be linear but that is a good way to start to learn the techniques. Expert writers tend to plan. Don't need to spend ages planning, provided keep re-reading and amending text and altering what one plans to write. One might be doing different elements simultaneously. Terms explained. Write Away Process (GRIST/TPDRE) sheet supports this. When planning, if they've altered it in their heads they don't necessarily have to alter the plan on the paper. The goal is good writing not good planning sheets. Important point: writing supports learning, as one writes one's views/understandings are likely to change and therefore the product. Will be producing better compare and contrast essay writing (process goal). Model planning a compare and contrast essay. Tell them that they will be discussing how you did it afterwards. Refer to the GRIST mnemonic to start with. Perhaps refer to the "How to Structure…" sheet. Jot ideas down and perhaps research a little. Plan using the structure: introduction, similarities, differences and conclusion using the graphic organiser. Identify something important or interesting for the introduction. You "think aloud" i.e. make known the thinking processes using the aide memoire. Remember: respond to the essay prompt; demonstrate the strategies, linking them to success; refer to the mnemonics; use goals; question yourself …then answer; instruct yourself; encourage yourself; manage your emotions. If class are restless they can do as shared writing as a whole class. Important to make the thinking processes clear to the pupils. As a class discuss in pairs then as a class what they noticed about how you planned. In pairs, pupils support each other in planning their <u>individual</u> compare and contrast essays. Content matter is determined by the teacher. The finalised essays will be collated when finished and shared in the room and in the library. Their individual plans are on separate pieces of paper. Jottings /crossings out are fine. *Their plans do not have to be the same*. Pupils discuss the content while producing their own plans. They could jot what they know about the topic and then identify areas of similarity/difference or they could put these directly into the graphic organiser. They explain their final plan to their peer. They can use that discussion to inform or change their plan. They also have the Write Away Process sheet and How to Structure Sheet to refer to. This is an opportunity to research more information if appropriate and jot some notes. You give feedback, circulating the classroom. Discuss how they find it.	Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Some students alter their understanding of a topic little when writing- these profit most from a planning strategy. Some students learn as they write- these benefit most from a draft-revise strategy (Baaijen et al., 2014) Set process goal (Schunk et al., 1991, 1993) and product goals (Graham et al., 2007; Rogers et al., 2008). Teach self-regulation (goal setting, self-monitoring) via the use of teacher modelling (Schunk et al., 1991, 1993) Provide adult feedback (Graham et al.,2012, Hattie, 2009). Collaboration improves writing quality (Graham et al., 2007). Teach knowledge of genre features (Hoogeveen, 2012). Provide an authentic purpose for informational writing (Purcell-Gates et al., 2007)	Strategy instruction, self-regulation, collaboratio n, feedback, Product goals, modelling, authentic purpose,

Teaching Elements	Rationale	Purpose
Step 3 Provide and model the drafting strategy Model drafting a compare and contrast essay, using the aide memoire as a prompt. Pupils write first drafts independently double-spaced (to aid revision) on paper using their plan. Write draft at the top. Tell them the final copies will be shared in a folder in the class and in the school library. Remember: • Double spaced • Focus on content • Use the graphic organiser or those headings from a plan • Continue to encourage and instruct yourself • Topic sentences • Tied together Draft the introduction using the aide memoire. The pupils then draft their introductions independently. They have their plans which they did on graphic organisers and the How to Structure Sheet. You give feedback, circulating the classroom. Draft the similarities paragraph. The pupils then draft their similarities paragraphs independently. You give feedback, circulating the classroom. Draft the differences paragraph. The pupils then draft their differences paragraphs independently. You give feedback, circulating the classroom. Draft the conclusion. The pupils then draft their conclusions independently. You give feedback, circulating the classroom. You may want to do more than one section at a time if you wish or even the whole draft. Do what suits your class the best.	Provide an authentic purpose for informational writing (Purcell-Gates et al., 2007) Teach self-regulation (goal setting, self-monitoring) via the use of teacher modelling (Schunk et al., 1991, 1993) Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Provide adult feedback (Graham et al.,2012, Hattie, 2009).	Strategy instruction, self-regulation, feedback, modelling, authentic purpose,

Teaching Elements	Rationale	Purpose
Step 4 - Provide and model revising and editing strategies Remind of GRIST and the structure for compare and contrast (intro, similarities, differences, conclusion). Revision improves writing quality - all good writers do it. Highlight the value of having a time lag between drafting and revising if possible. It lets one see it as a reader. Editing is more like making corrections (spelling, punctuation, grammar, font for IT). It is easy to get distracted by editing rather than revising so it helps to focus on revision first. Revising with a peer is a useful way of improving work: even adults do this. To revise: **REA/D <u>Re-Read, Evaluate, Alter/Delete</u>** (add, remove, rearrange, replace). Focus on content and structure rather than spelling. They may need to create new paragraphs. Evaluation is the key to revision. GRIST helps this. Refer to it and the compare and contrast structure. Discuss the sorts of things to consider. What are the best bits? Have the goals been met? Is it suitable for the reader? Does it make sense? Do any of the ideas need changing? Have you used the correct structure? Are the paragraphs tied together? Are ideas in paragraphs tied together? (All but the first one are in GRIST). Model revising, thinking aloud as before. Use the Revise to Improve Sheet as a prompt and refer to REA/D and GRIST, as above. Write over the top, cross out, use carets, arrows, asterisks with numbers for additions or use cut and stick approach with Pritt sticks on to fresh paper (or blu tac on sugar paper in front of class) or IT. Mark the revisions in a different colour. Use positive self-statements. Finish by using the Compare and Contrast Essay Checklist. This may result in further revisions. In time they should not need the checklist: just to remember REA/D and GRIST. Drafts (<u>unmarked</u>) are returned. Pupils revise in class the draft they worked on at step 3. They have the Revise to Improve Sheet and Compare and Contrast checklist. Pupils look at their own work (preferably at start of a new lesson) for 5-10 minutes. Re-read it and find things to alter/delete. Discuss the importance of compliments, being polite and letting the writer have the final say in peer revision. In pairs the pupils read each other's texts. They are only giving advice. They consider the questions from the Revise to Improve Sheet and the checklist. *Together* they think about how they would change the work. Mark the revisions on the draft in a different colour. Use a cut and stick approach to support this where appropriate; it might be fun and would teach them how to use the technique for IT. Then exchange roles and papers. Model editing briefly (punctuation, spelling, grammar). Pupils edit their own and each other's work. They produce a final copy. You give feedback. What do the pupils think of their essays? Did they achieve their goal? What do they think of their writing quality? How helpful are the mnemonics? What did they think of peer revision and peer editing? Anything they would do differently next time? Final copies shared with class in a folder and perhaps with the library.	Teach strategies for revision of writing (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Revision is associated with better writing quality (Corden, 2007; Hough et al., 2012; Fidalgo et al., 2008) and improved understanding of the topic (Baaijen et al., 2014). Revision at the text rather than word level (like spelling) leads to greater improved writing quality (Zhang, 2001). Provide evaluation criteria and the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013). Facilitate peer revision. This, integrated with instruction in evaluation and revision, improves the writing quality of subsequent writing produced independently (Boscolo et al., 2004). Peer revision also provides the reviewing student with the opportunity to develop their critical reading skills (MacArthur in Graham et al., 2013). Students to consider how they have done in terms of product and process goals (Schunk et al., 1991, 1993; Graham et al., 2007).	Strategy instruction, product goals, process goals, text structure, collaboration, modelling, feedback, self-regulation

Teaching Elements	Rationale	Purpose
Step 5 – Reinforce the *Write Away* process, genre knowledge and how to evaluate writing. Develop independent use of *Write Away* process. Encourage pupils to memorise the acronyms GRIST and REA/D, the structure of a compare and contrast essay and to remember to Think, Plan, Draft, Revise, Edit. Discuss what they mean as a class. They could write these down when they don't have prompts available, for example in a test or at home. Test these orally frequently through the weeks of the intervention. Pupils <u>independently</u> plan and draft a compare and contrast essay on loose paper. Double spaced. Content determined by the teacher. *Write Away* TPDRE sheet, graphic organiser and the How to Structure Sheet are all still available. However, remind them that they will not be available in exams; they need to learn the process and the mnemonics. At the start of a different lesson (to provide time lag) they firstly spend 10 minutes revising using REA/D (Re-read, evaluate, alter/delete). They use a different colour (and cut and stick if needed) on their own. They have the compare and contrast checklist and the Revise to Improve Sheet available to support this. Peer revision is a very effective way of improving writing quality, both in the texts being examined and future writing produced. It should therefore continue throughout and beyond the programme. In pairs the pupils read each other's texts. They consider the checklist and revision prompts: Find things to praise. Is the meaning clear? Have they met the goals for the type of text? Have they considered the reader? Any of the ideas they would change? Have they got the structure? Have they language features? Is it tied together? Together they think about how they would change the work. They negotiate this. Next, the pupils edit the work: capital letters, punctuation and spelling. Then exchange roles and papers. The pupils then produce their final copy. Feedback provided from adults. Shared with class/library in a folder. Pupils evaluate how they have done in terms of product (the text) and process (their ability to write this genre). What do they think of their writing abilities now? What will they do for similar tasks in future? **Continue using the mnemonics and peer revision of writing. Reduce reliance on the support sheets.**	Help pupils remember product goals through mnemonics (De la Paz, 1999; Fidalgo et al., 2008). Support memorisation through mnemonics (Harris et al., 2009). Develop independent performance by removing supports (Harris et al., 2009, Fidalgo et al., 2008) Provide evaluation criteria and the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013). Facilitate peer revision. This, integrated with instruction in evaluation and revision, improves the writing quality of subsequent writing produced independently (Boscolo et al., 2004). Peer revision also provides the reviewing student with the opportunity to develop their critical reading skills (MacArthur in Graham et al., 2013). Provide adult feedback (Graham et al.,2012, Hattie, 2009). Students consider how they have done in terms of product and process goals (Graham et al., 2007; Rogers et al., 2008)	activate prior knowledge, motivation, strategy instruction, product goals, process goals, text structure, collaboration, feedback, self-regulation, authentic purpose

GRIST:
Goals e.g. inform, describe, narrate, persuade. Different goals lead to different genre choices, e.g. narrate – story, recount, script; persuasive essays, adverts; inform – e.g. cause and effect, problem and solution essays.
Reader (a.k.a. audience) must be considered e.g. language style, language features, vocabulary, maintaining interest, length.
Ideas need to be pertinent ones, answering the question, linked together. Put ideas in paragraphs with a topic sentence.
Structure: tend to have introduction, development and conclusion (**IDC**). Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps.
Tied together Use transition words (linking words/phrases) to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. Use a good model essay to support this.

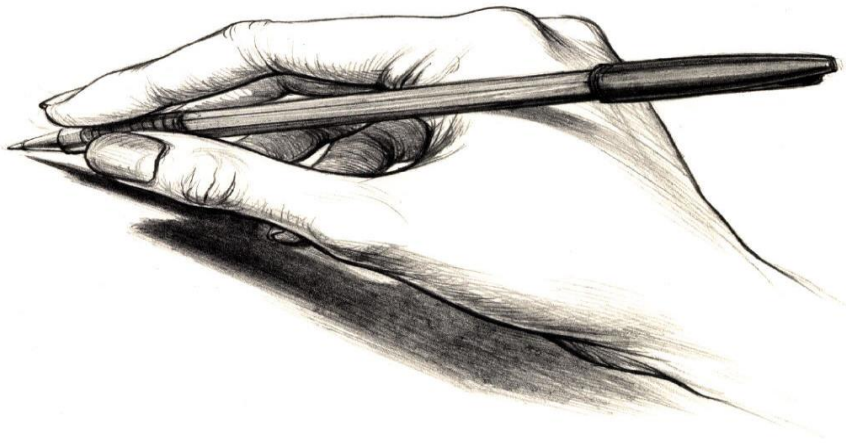
REA/D:
Re-Read the text
Evaluate using GRIST. Find things to praise. Is the meaning clear? Have they met the goals for the type of text? Have they considered the reader? Any of the ideas they would change? Have they got the structure? Have they language features? Is it tied together?
Alter/Delete make the appropriate changes. Add, remove, replace, rearrange at text, sentence and word level. May need to add paragraphs.
If they revise using IT at home suggest printing it off to revise. One may also have had time to think again about the ideas in the essay and want to change it. Revising with a peer is a useful way of improving work: even adults do this.

Editing: It is easy to get distracted by editing and to neglect revising. One needs to do both. Check punctuation, spelling, grammar and change accordingly. If using IT one may alter fonts, sizes and so on.
Similarities and Differences /Compare and Contrast structure: introduction, similarities (1-2 paras), differences (1-2 paras) and conclusion.

Writing Process: Think, Plan, Draft, Revise, Edit.

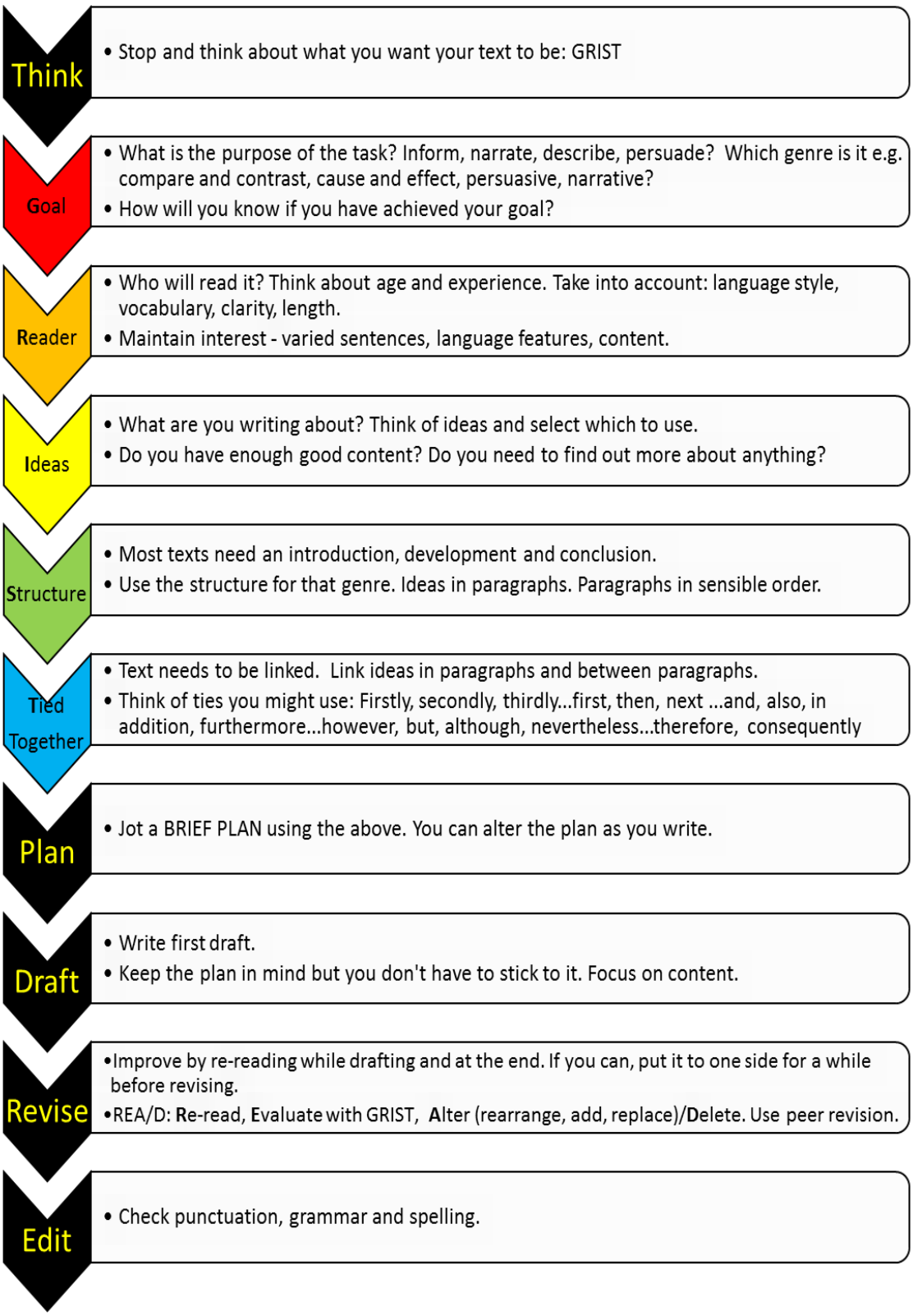
Appendix 7.8 Write Away Elementary Intervention Support Materials

Write Away
P6 Support Materials



Kelton Green
Local Authority Psychological Service

Write Away Process



Model Essay #1

A Comparison of Primary and Secondary School

I know that all schools have teachers. They teach you. Primary and secondary schools are both large buildings where students go apart from in the holidays. They are open for five days per week. Your name has to be called on the register in the morning and afternoon in both types of school. Secondary schools are bigger than primary schools. At primary school youre teacher teaches you most of the time but at secondary school you have a lot of teachers and you need to move between the classes and you have to go to school or you will get into trouble. You don't have to move between classes as much at primary school. But at secondary school you get to go to the chippy at dinner time or wander around the shops. I like doing that. And you get to make new friends. I think the government has decided there are some subjects you have to learn, like English and Maths. I don't like maths. But you get loads more homework at secondry. There are more different types of lessons at secondry. And on the last day of term at primary school you can sometimes bring toys in to play with. The secondry school is further away for most students so they have to get the bus.

Model Essay #2

A Comparison of Primary and Secondary School in Scotland

All children must receive at least 11 years of education in Scotland. This is because the government think it is important for everyone to be educated. The first seven years are at primary school and this is followed by at least four years at secondary school. There are many similarities between the two types of schools but there are also some important differences.

Primary and secondary schools have some important similarities. The first of these is that they are both places where groups of children or young people are supported in their learning by teachers. This normally happens in classrooms. In addition, both are open five days per week for a fixed number of hours each day. Likewise, for both types of school, a record has to be kept of pupil attendance both in the morning and in the afternoon. This is called the "register". Furthermore, much of what is taught in both types of school is decided by the government. The Curriculum for Excellence was introduced in 2010. It suggests what experiences the students should have and what skills they need to develop. The government has also decided that some subjects must be studied. For example, all students have to study English until S4 at least.

However, there are also significant differences between primary and secondary schools. Firstly, secondary schools are often a great deal larger than primary schools. This is because they have many more students and have a wider range of activities available. Secondly, primary school pupils generally stay in the same classroom with the same teacher much of the time whereas at secondary school pupils have more teachers and have to move between classrooms for the different lessons. Thirdly, having the same teacher can mean that pupils develop a stronger relationship with them. However, having a range of teachers can provide more opportunities for relationships and can help to encourage independence. In the same way, pupils at secondary school get to meet many more other students and so can find new friends with similar interests more easily. Furthermore, at primary school pupils have to stay on the school grounds all day while most secondary students are able to leave for lunch. Another important difference is homework: secondary students get much more of it than primary pupils.

In conclusion, primary and secondary schools are similar in that they are both places for learning. However, there are significant differences in size, organisation and what students are allowed to do. It seems that many of these differences both reflect the increasing maturity and independence of the secondary students. It is clear that both types of schools have an important role in educating the adults of the future.

Modelling Aide Memoire

Essay writing is not easy! Modelling through thinking out loud enables students to hear the inaudible thinking process. Plan in advance roughly the kind of thing you will say but do not script it. Try to keep it authentic. Ensure that the key elements below are included.

Shorten the modelling and do it in smaller chunks if attentions drift. Alternatively, switch to a collaborative whole class think aloud and involve the students more actively, asking them to share what they might think as they write.

Key Elements

- **Respond to the essay prompt**
- **Demonstrate the strategies, linking them to success**
- **Refer to the Mnemonics**
- **Use goals**
- **Question yourself …then answer**
- **Instruct yourself**
- **Encourage yourself**
- **Manage your emotions**

See example extracts below for writing a compare and contrast essay. This is not a script to follow just a flavour of how to deliver it.

It would be far better to do an essay on a topic that is relevant to what is being covered in class.

PLANNING

- **Refer to GRIST mnemonic**
- **Jot ideas**
- **Perhaps research a little**
- **Plan using structure: introduction, similarities, differences, conclusion**
- **Use graphic organiser or write those headings**
- **Something important or interesting for the introduction**

I know how to write essays… I use GRIST to start with. This will help me write a good essay. I'll write that down…now that means ***goal, reader, ideas, structure*** *and* ***tied together****…* (See Model Essay #2 first draft and revisions, edits.)

Now the question says compare and contrast Primary and Secondary school…so I am trying to tell the reader of ways in which they were alike and different…This will be put in the class library and so the reader could be any one from P6 upwards. I must use language they will understand… What do I need to do next…? I need to work on a plan, that's my first goal.

I'll jot down what I know about primary and secondary school, especially things that are the same or different…..Well, they're both ***places where children are taught*** *…****secondaries are bigger and have bigger carparks****… **The Curriculum for Excellence**, I wonder when it was introduced? I'll look that up and put it in (**2010**)… (and so on).*

Do I have enough good ideas? Yes, that's enough.

To organise my essay I need to use "S" from GRIST – structure. Oh good I can remember the structure for a compare and contrast essay…. You have an intro, a paragraph or so on similarities and then a paragraph on differences before writing a conclusion. (Either write intro, sims, diffs conclusion on paper so can jot down a plan or use a graphic organiser).

I need to find something interesting or important to put into the introduction… I know, ***children have to go to school for 11 years by law*** *so it is certainly important… I'll put that in the introduction… That's great, I have a plan for the introduction.*

Next comes the similarities part. .. What things are the same? I want to use the best ideas. I'll jot them on my plan/organiser. ***They are both places you go to learn****. What other things are there? (***open five days per***

week, pupil attendance recorded, much of what is taught is decided by the government and so on). (Jot these on the plan). *I've thought of another one…I've got quite a list now. That should make it easier.*

My next goal is to plan the differences paragraph. Well, secondaries are a lot larger… I wonder why that is?....Oh, I know it's because ***they have more students****…and they have more students* ***so that they can provide a wider range of lessons and activities****…. The other differences are (jot down:* ***at secondary school pupils have more teachers and move between classrooms, pupils at secondary school meet more students and find new friends more easily, at primary pupils stay on the school grounds all day*** *and so on). I wonder what this might mean for students? …Well,* ***having the same teacher can mean that pupils develop a stronger relationship with them, however, having a range of teachers can provide more opportunities for relationships…***

I'm going to think about the conclusion after I've written the draft intro and development. I know I'll have to summarise what I've written and write what I've learnt. I'm not sure just yet about that last bit but writing it might help me to think more clearly so I'm not going to worry about that just now…Writing essays isn't easy but I'm doing all right…this plan is good and will make it a lot easier to start writing… I feel quite excited.

DRAFTING

- **Double spaced**
- **Focus on content**
- **Use the graphic organiser or those headings from a plan**
- **Continue to encourage and instruct yourself**
- **Topic sentences**
- **Tied together**

I need to start drafting now. My goal is a first draft. If I double space it will make it easier to change it. I'll worry about punctuation later… I've put the structure in my plan already: it has to have an introduction, a similarities paragraph, a differences paragraph and a conclusion. That seems a lot, I feel a bit nervous… I'll feel better when I've got something down on paper…

It needs a title: **A Comparison of Primary and Secondary School**

I'll do the intro first… I need to say why the question is important and what I will be writing about…Well, I can see that on my plan/graphic organiser I put children have to do 11 years at school at least. I can word that better…
All children must receive at least 11 years of education in Scotland. This is because the government believe it is important for everyone to have the chance to be educated… (Continue in this way for introduction)

I need to put what I'll be writing about…
There are many similarities between the two types of schools but there are also some significant differences.

Now, I need to do the similarities paragraph. I need a topic sentence. This tells the reader what the paragraph is about.
Primary and secondary schools have some important similarities.

I now give one of the similarities from my plan/organiser. Oh, I need to write in third person (he,she, it, they) for this type of essay…
They are both places where groups of children or young people are supported in their learning by teachers.

I've forgotten T from GRIST (tied together). *I also need to remember to link ideas… I could use first, second, third or maybe first, in addition,*

likewise, furthermore… I prefer the second list but it doesn't matter. I'll change the first one…
Primary and secondary schools have some important similarities. The first of these is that they are both places where groups of children or young people are supported in their learning by teachers.

Now I'm going to look at my plan again to see which similarities to put down and I'll remember to use ties…
In addition, both are open five days per week for a fixed number of hours each day with a set time for lunch. (Continue in this way for rest of similarities paragraph)

That's looking good. Next I need to do a paragraph on differences. I need to give a topic sentence.
There are also significant differences between primary and secondary schools.

On my plan (or graphic organiser) I have the other differences so I just need to put them in good English and remember to tie them together.
(Continue in similar fashion to the similarities paragraph).

That's great: I've now got a draft intro, similarities and differences. Now for some serious thinking, I need to do the conclusion. Well, the reader needs to know it is the conclusion…
In conclusion,

I now have to summarise briefly what I've already written. I should use different words. I'll read what I've already written again… I need to put something about them being similar and something about them being different. I'll just mention the important ones.
In conclusion, primary and secondary schools are similar in that they are both places for learning. However, there are significant differences in size, organisation and the freedoms granted to students.

Reading it through I realise that one reason they are different is that secondary schools try to make students more independent. Secondary students are also more mature than primary students and ready for this independence: when they leave they are practically adults.
It seems that many of these differences both reflect, and help to develop, the maturity and independence of the secondary students.

Wow! I've done the first draft. That feels better…

REVISING

- **REA/D= Re-read, Evaluate, Alter/Delete**
- **Evaluation is key to revision**
- **What are the best bits?**
- **GRIST helps. Have the goals been met? Is it suitable for the reader? Does it make sense? Do any of the ideas need changing? Have you used the correct structure? Are the paragraphs tied together? Are ideas in paragraphs tied together?**
- **Use the checklist**
- **Write on the draft to show alterations/deletions. You can use cut and stick (either on paper or IT).**

I've done a draft but I want it to be good so I'll need to revise it. I've put it aside for a day so hopefully I'll be able to spot mistakes more easily…I have to revise using REA/D but what does the mnemonic mean? Let me think…R… Re-read… I remember it now….: Re-read, Evaluate, Alter/Delete….So I need to read it all the way through again carefully and evaluate, that means decide how good it is…then change things or get rid of them.

Write on the draft what you will add or delete or re-arrange. You can re-arrange (move) paragraphs or a few sentences through cut and stick with paper or IT if you like. Alternatively use arrows. When you make a change re-read that section.

I'm going to alter the title first because this is about Scotland in particular…

A Comparison of Primary and Secondary School in Scotland

Ask the revision prompt questions to yourself.

What are the best bits? Well, I think I found some good similarities and differences.

Have the goals for the text been met? The goal was to compare and contrast. I think I've done that…but I will add in bits to improve my text as I go along.

*Will the text be suitable for the reader? Perhaps the language is too hard… I'll substitute some simpler words… instead of "**mandatory**" I'll use "**must be studied**"*

Does it make sense? I've missed out the word "primary"…

Do any of the ideas need changing? There are good ideas. But I will add in a thought I've just had, students find it easier to make friends at high school because there are more people with similar interests.
In the same way, pupils at secondary school get to meet many more other students and so can find new friends with similar interests more easily.

Is the writing well structured? - Yes I've done that but I think the similarities paragraph could be better. The schools being open five days a week and schools keeping a register are about the same type of thing and so should be closer together. I'll move that sentence up.
In addition, both are open five days per week for a fixed number of hours each day. Likewise, for both types of school, a record has to be kept of pupil attendance both in the morning and in the afternoon. This is called the "register".

I could do with a last line which clinched it better. I haven't really put what I've learnt…. I must not use "I" though…
It is clear that both types of schools have an important role in educating the adults of the future.

Are the paragraphs tied together? The differences paragraph isn't really linked on….I'll use "however".
However, there are also significant differences between primary and secondary schools.

Are the ideas in each paragraph linked? I need to add some more linking words and phrases to my text…like "furthermore"…
Furthermore, at primary school pupils have to stay on the school grounds all day while most secondary students are able to leave for lunch.

That sounds good!

You could now go through the **checklist**, ticking things off. A belt and braces approach. Not everything has to be ticked but most do! Explain that as their skills develop they will know these things without a checklist and the GRIST and REA/D mnemonics will be enough.

EDITING

- **Check punctuation**
- **Spelling**
- **Grammar**

So to edit I need to check spelling, grammar and punctuation. I purposely didn't focus too much on this before because it can mean I don't concentrate on the content of my writing. I'll read through again…

*I've spelt "secondary" wrong… and I'm not sure about "attendance"… (*You could look these up in a dictionary).

The first seven years are at primary school and this is followed by at least four years at secondary school.

Checking for capitals… proper nouns have capitals… so Curriculum for Excellence should have them….

The Curriculum for Excellence was…

I've also missed a capital at the start of a sentence.

It suggests what experiences the students should have…

I've also put "meets" but that does not make sense, it should be "meet".

In the same way, pupils at secondary school get to meet many more other students…

And so on. Point out that if you have time you will be writing up a neat copy. There may not be time for that in an exam. Even when producing the final version changes might still be made.

Celebrate finishing the task. *I'm really pleased with myself, this is a great essay. I kept calm and used the strategies. I achieved my goals. I'm a good writer.*

A Comparison of Kenya and the Netherlands (Draft)

Kenya is an African country. The Netherlands were involved in the slave trade up to the mid-19th century and so has old links with Kenya. The Netherlands is on the West coast of Europe. Bicycles are widely used for transport in Kenya and the Netherlands. In both countries vegetables, fruits and flowers are grown for sale in greenhouses. They both sell their produce abroad and at home. Millions of people visit Kenya to see the scenery and wild animals. This includes lions, elephants, giraffes, cheetahs, zebras and rhinos. The Netherlands attracts tourists to see its old streets, canals and windmills. The Netherlands has cool summers and mild winters. kenya's climate varies across the country, from the tropical humidity of the coast, the heat of the savannah and the cool air of the highlands. The average income per person in the Netherlands is $43,404 a year. The average income per person in Kenya is $1,587. This is considerably lower than in the netherlands. Kenya is a much larger country. In the Netherlands, half of all trips are made by car. Although cycling is popular for shorter journeys. In contrast to the Netherlands, the most frequently used form of transport in Kenya is the bus. Kenya was a colony of the UK and also had Dutch settlers. Many people in the past were forced to become slaves and taken away from the country. Kenya would be a more developed country today if it had not had people forced into slavery in the past. The Netherlands was involved in the selling of slaves. Kenya and the Netherlands both grow flowers and other crops in greenhouses for sale abroad. Cycling is popular in both countries. However, the Netherlands has a milder climate and the people earn a lot more money.

A Comparison of Kenya and the Netherlands (suggested revision)

Kenya and the Netherlands are on different continents. However, the Netherlands was involved in the slave trade up to the mid-19th century and so has old links with Kenya. Kenya and the Netherlands share important similarities and have significant differences.

There are a number of similarities between the two countries. Firstly, in both countries vegetables, fruits and flowers are grown in greenhouses for sale abroad and at home. Secondly, they are both holiday destinations. Millions of people visit Kenya to see the scenery and wild animals. This includes lions, elephants, giraffes, cheetahs, zebras and rhinos. The Netherlands attracts tourists to see its old streets, canals and windmills. Thirdly, bicycles are widely used for transport in Kenya and the Netherlands.

The Netherlands and Kenya have many differences. First, the Netherlands has cool summers and mild winters while Kenya's climate varies across the country, from the tropical humidity of the coast, the heat of the savannah and the cool air of the highlands. Kenya is also a much larger country. Next, the average income per person in the Netherlands is $43,404 a year but in Kenya this is only $1,587. This is considerably lower. In addition, in the Netherlands, half of all trips are made by car although cycling is popular for shorter journeys. In contrast, the most frequently used form of transport in Kenya is the bus. Finally, Kenya was a colony of the UK and also had Dutch settlers. Many of its people in the past were forced to become slaves and taken away from the country.

Kenya and the Netherlands both have important horticultural businesses and are popular tourist destinations. Cycling is also popular in both countries. The two countries have different climates and are not as rich as each other. Historically, the Netherlands was involved in the selling of slaves while Kenya was a victim of this cruelty. Kenya would be a more developed country today if it had not had people forced into slavery in the past.

Model Essay #2 first draft and revisions, edits.

A Comparison of Primary and Secondary School in Scotland

All children must receive at least 11 years of education in Scotland. This is because the government believe it is important for everyone to have the chance to be educated. The first seven years are at primary school and this is followed by at least four years at secondary school. There are many similarities between the two types of schools but there are also some significant differences.

Primary and secondary schools have some important similarities. The first of these is that they are both places where groups of children or young people are supported in their learning by teachers. This normally happens in classrooms. In addition, both are open five days per week for a fixed number of hours each day. Likewise, for both types of school, a record has to be kept of pupil attendance both in the morning and in the afternoon. This is called the "register". Furthermore, much of what is taught in both types of school is decided by the government. The *C*urriculum for *E*xcellence was introduced in 2010. *I*t suggests what experiences the students should have and what skills they need to develop. The government has also decided that some subjects <u>are mandatory</u> must be studied. For example, all students have to study English until S4 at least. <u>Likewise, for both types of school, a record has to be kept of pupil attendence both in the morning and in the afternoon. This is called the "register".</u>

However, there are also significant differences between primary and secondary schools. Perhaps the most obvious one is that secondary schools are often a great deal larger than primary schools. This is because they have many more students and have a wider range of activities available. In addition, primary school pupils generally stay in the same classroom with the same teacher much of the time whereas at secondary school pupils have many more teachers and have to move between classrooms for the different subjects. Having the same teacher can mean that pupils develop a stronger relationship with them. However, having a range of teachers can provide more opportunities for relationships and can help to encourage independence. In the same way, pupils at secondary school get to meets many more other students and so can find new friends with similar interests more easily. Furthermore, at primary school pupils have to stay on the school grounds all day while most secondary students are able to leave for lunch. Another important difference is homework: secondary students get much more of it than primary pupils.

In conclusion, primary and secondary schools are similar in that they are both places for learning. However, there are significant differences in size, organisation and the freedoms granted to students. It seems that many of these differences both reflect, and help to develop, the maturity and independence of the secondary students. It is clear that both types of schools have an important role in educating the adults of the future.

Black = first draft
Green = revised version
Red and italics = edited version
Underlined = cut

How to Structure Your Compare and Contrast Essay

Introduction (Paragraph)

- Get the reader's attention –say why this is important.
- Present the reader with the topic and purpose of the text.
- Perhaps list the areas to be considered.

Similarities (1-2 Paragraphs)

- Topic sentence: *Primary and Secondary Schools have some important similarities…*
- Describe the most important similarity.
- Describe the other similarities.
- Use ties to join ideas within the paragraph: *Firstly,…Secondly,… Thirdly,…Finally…* or *The first… In the same way,… In addition,… Furthermore,…*
- Support with evidence: examples, facts, ideas.
- Use ties to compare how alike the items are: *likewise, just as, similarly, equally, too, as well, also, both, is exactly/precisely/almost the same as…*

Differences (1-2 Paragraphs)

- Use ties to link paragraphs. *However, in contrast, on the other hand, although, on the contrary…*
- Topic sentence: *Primary is different from Secondary in a number of respects…*Describe the main difference.
- Describe the other differences, using ties to join ideas within the paragraph: *Firstly,…Secondly,… Thirdly,…Finally…* or *The first… In the same way,… In addition,… Furthermore,…*
- Support with evidence: examples, facts, ideas.
- Use ties to compare the items: *however, but, unlike, in contrast, on the other hand, yet, the reverse is true for…, a major difference between…;Secondary is a great deal/considerably/slightly larger (and so on) than Primary; Primary is completely/very/somewhat different from Secondary; Primary is not exactly the same as Secondary.*

Conclusion (Paragraph)

- Use ties to link paragraphs. *In conclusion,…To sum up,…*
- Summarise briefly.
- Evaluate how similar/different the two items are. Include what you have learned; Remember not to use "I".
- Give main idea again. Perhaps make a prediction or give a personal view.

Remember to Revise and Edit: that's what makes great writing!

Compare and Contrast Graphic Organiser

Jot words or phrases only

Goal (purpose) of your writing:

Reader:

Introduction

What you will be writing about:

Why this topic is important/interesting:

Similarities

Differences

Conclusion

Remember to summarise the above.

How similar/different are they?

What you've learned.

Compare and Contrast Essay Checklist

Tick the box for each aspect that has been included. They do not all have to be included.

Does the writing...	**Please tick✓**
Make sense?	
Suit the reader?	
Achieve the goals for the piece of writing?	
Use "it" or "they" (third person) and not "I"? E.g. Primary and secondary are similar...(not: I think...	
Have an Introduction?	
Does the Introduction...	
Get the reader's attention?	
Say why this is important?	
Give the topic and purpose of the text?	
Have 1 or 2 Similarities paragraphs?	
Does the Similarities paragraph...	
Have a topic sentence? *E.g. Primary and Secondary Schools have some important similarities...*	
Describe the similarities?	
Use ties to join ideas within the paragraph? *E.g. Firstly,...Secondly,... Thirdly,...Finally... or The first... In the same way,... In addition,... Furthermore,...*	
Support the ideas with evidence? E.g. examples, facts, ideas.	
Use ties to compare how alike the items are? E.g. *likewise, just as, similarly, equally, too, as well, also, both, is exactly/precisely/almost the same as...*	
Have 1 or 2 Differences paragraphs?	
Does the Differences paragraph...	
Use ties to link paragraphs? E.g. *However, in contrast, on the other hand, although, on the contrary...*	
Have a topic sentence? *E.g. Primary is different from Secondary in a number of respects...*	
Describe the other differences, using ties to join ideas within the paragraph? E.g. *Firstly,...Secondly,... Thirdly,...Finally...* or *The first... In the same way,... In addition,... Furthermore,...*	
Support the ideas with evidence? E.g. examples, facts, ideas.	
Use ties to compare the items? E.g. *however, but, unlike, in contrast, on the other hand, yet, a major difference between...;Secondary is a great deal/considerably/slightly larger (and so on) than Primary; Primary is completely/very/somewhat different from Secondary;*	
Have a Conclusion paragraph?	
Does the Conclusion...	
Use ties to link paragraphs? E.g. *In conclusion,...To sum up,...*	
Summarise briefly what has been written?	
Judge how similar and/or different the two items are?	
Include what has been learnt? Remembering not to use "I".	
Give main idea again?	
Perhaps make a prediction or give a personal view?	
What are the best bits?	

Revise to Improve Your Writing

Tip: Leaving some time after drafting can help when revising.

Use READ = Reread, Evaluate, Alter/Delete.

- Re-read your writing on your own first.
- What are the best bits?
- Have the goals for the text been met?
- Will the text be suitable for the reader? Does it make sense?
- Do any of the ideas need changing?
- Is the writing well structured? - Introduction, development, conclusion?
- Are the paragraphs tied together? Are the ideas in each paragraph linked?
- Write on the draft what you will add or delete or *re-arrange*. You can re-arrange (move) paragraphs or a few sentences through cut and stick if you like. Alternatively use arrows.

Editing (corrections)

- Check spelling and punctuation (capital letters, full stops and so on).
- Check grammar (e.g. "It went" rather than "It wented") and number agreement (e.g. "four houses" rather than "four house"; "It was" rather than "It were").
- Use peer editing in the same way as peer revision.

Peer revision

This is a useful way to improve your writing and writing skills. It means working with someone in your class. Do this after revising your work on your own.

- Agree whose writing will be revised first.
- Revise using REA/D above.
- Remember to start with compliments. Be polite.
- Together, think about how you might change the work. Make suggestions politely rather than just saying such and such is wrong. The writer has the final say for their writing.
- The writer marks the revisions on their draft. Using a different colour helps. Use a cut and stick approach to support this where appropriate.
- You could read it aloud as a final check.
- Swap over and revise the other piece of writing.
- Edit each other's writing in the same way.

Appendix 7.9 Intervention Teachers Focus Group Questions

Teacher Focus Group Questions

1. Do they think students' writing skills have improved as a consequence of the programme? In what ways?

2. What has been positive about the writing programme?

3. What has been challenging about the writing programme?

4. Did the intervention have any adverse consequences?

5. Will they continue to use anything from the programme?

6. Has it affected their confidence to teach writing?

7. Any other comments?

Appendix 7.10 Written Task Prompts A and B

WRITING TASK A **NAME:** **DATE:**

For this writing task you have been provided with a piece of rough paper which you can use if you wish. Please put your name on it whether you use it or not. Write your essay on the lines below to the best of your ability. If you need more paper just request it, remembering to put your name on it. Use crossings out or lines to indicate any changes to your text rather than using liquid paper or a rubber. The task has to be completed within the time your teacher told you. When you have completed the task hand your papers to the teacher.

Task A is: Compare and contrast texting and phoning.

WRITING TASK B NAME: DATE:

For this writing task you have been provided with a piece of rough paper which you can use if you wish. Please put your name on it whether you use it or not. Write your essay on the lines below to the best of your ability. If you need more paper just request it, remembering to put your name on it. Use crossings out or lines to indicate any changes to your text rather than using liquid paper or a rubber. The task has to be completed within the time your teacher told you. When you have completed the task hand your papers to the teacher.

Task B is: Compare and contrast playing computer games and playing games outside.

Appendix 7.11 Elementary Teacher Instructions for Administering Written Tasks Pre and Post-test

First Writing Assessment Task Teacher Instructions

Prior to the task all the P6 pupils need to be allocated to Task A or Task B. The first pupil on the class register has Task A first, the next pupil has Task B and so on.

1. The task is done under exam conditions, so the pupils cannot talk to their friends and should not copy from others.

2. Tell the pupils when the task period will end; write this on the board. They should have 90 minutes available if required. If they finish before this time they can read quietly.

3. Distribute **one sheet of A4 paper** for each pupil. This is not for their final copy but can be used for making notes or any other purpose they feel might help their writing. They must write their name on it even if they do not use it.

4. Distribute the **writing tasks** using the register to determine which pupils receive task A and which receive task B, as described above. Tell the pupils they will not all get the same tasks. Half of the pupils have to do task A and half have to do task B first. *When they repeat this exercise later they will do the task they have not yet done.*

5. Tell the pupils to start the task. If they finish early they can read or engage in some other suitable, silent activity.

6. When the time is up the pupils must ensure their names are on their tasks and A4 sheets. These are then collected in.

Final Writing Assessment Task P6 Teacher Instructions

*Note that for the second task the rating questions are completed **after the assessment**.*

1. The task is done under exam conditions, so the pupils cannot talk to their friends and should not copy from others.
2. Tell the pupils when the task period will end; write this on the board. Make this time five minutes or so from the end of the session. (Time will be needed for them to complete their Final Student Questionnaire). If they finish before this time they can read quietly.
3. Distribute **one sheet of A4 paper** for each pupil. This is not for their final copy but can be used for making notes or any other purpose they feel might help their writing. **They must write their name on it even if they do not use it.**
4. Distribute the **writing tasks** using the Task List to determine which pupils receive which task. Those listed as having task A for their first task will be given task B for their second task and vice versa. Tell the pupils they will not all get the same tasks.
5. Tell the pupils to start the task.
6. When the time ends ask the pupils to stop.
7. Distribute the **Student Final Questionnaire**. Read the questions out and ask those pupils who are participating in the research to put their ratings down, should they wish.
8. Remind pupils to ensure their names are on their tasks, A4 sheets and Final Student Questionnaires, if completed. These are then collected in.

Appendix 7.12 Elementary Teacher Participant Information Sheet

Primary Teacher Participant Information Sheet

Research is being conducted into the teaching of writing in schools in the Local Authority in connection with Dundee University and this will help to inform future In-Service training and research.

Background Information

According to the European Union High Level Group of Experts on Literacy, writing is becoming ever more essential for social, political and workplace participation (European Commission, 2012).

There are a range of evidence-based writing interventions which have been combined in the writing interventions in this research. They include: process goals (Schunk et al., 1991, 1993); product goals (Graham et al., 2007; Rogers et al., 2008); text structure instruction (Graham et al., 2012; Fidalgo et al., 2015); the study of good models (Corden, 2007; Knudson, 1989); the teaching of knowledge of genre features (Hoogeveen, 2012); writing strategy instruction alongside self-regulation (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008); adult feedback (Graham et al.,2012, Hattie, 2009); collaboration (Graham et al., 2007); provision of authentic purposes for informational writing (Purcell-Gates et al., 2007); the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013); peer revision (Boscolo et al., 2004); the support of memorisation through mnemonics (Harris et al., 2009).

Aims and Objectives of the Study

The research question is:
Does the implementation of evidence-based teaching of writing practices improve writing quality at P6 in two primary schools in Southern Scotland?

Further to this, the study will investigate:

- P6 teachers' perceptions of the efficacy of the interventions at improving writing quality.
- The effects of the interventions on the teachers' reported teaching writing practices.
- The effects of the interventions on the perceived self-efficacy at teaching writing and enjoyment of teaching writing of P6 teachers.
- The effects of the intervention on P6 students' perceptions of self-efficacy at writing and enjoyment of writing.
- P6 Students' reported enjoyment of the interventions.

Method
Informed, written consent will be sought from the teachers in the study for the inclusion of their data in the study and possible publication. They will decide who is to take the control or intervention classes. A quasi- experimental design is to be used and so which students are to be involved with which intervention or control will be determined by the preference of the teachers. Providing the staff give consent, there will be a control class and intervention class in each school. The interventions will take six weeks. Training will be provided.

Students will be given the opportunity to opt-out of the intervention activities if they do not wish to participate and will be provided with alternative activities closely related to the tasks. The interventions are little different from normal curricular activities. Furthermore, informed, written consent will be sought from the students for the inclusion of their data in the study and possible publication. The student data will be the written assessment tasks and their questionnaire responses. The Control class will follow "business as usual" i.e. their usual programme of work.

Measures
The intervention teachers will be given a questionnaire pre and post the intervention period. Control teachers of P6 will also be given the final questionnaire. The teacher questionnaires include 9 point ratio scaling questions and an open question. Participant teachers will be invited to volunteer to attend focus groups at each school. The data will be kept anonymous.

A written assessment task will be given to all the P6 students pre and post the intervention period together with a brief questionnaire including 9 point ratio scaling questions and an open question for the final questionnaire. Informed, written consent will be sought from all the students for the inclusion of their data in the study and possible publication.

The focus group data will be collated and analysed thematically. The ratio scaling questions in the questionnaires will be reported using descriptive statistics and further analysed using chi-square tests on Excel. The open questions to the questionnaires will be collated and analysed thematically.
Data will be stored securely, i.e. it will be password protected. It will be stored on a password protected memory stick and a password protected hard drive. Ten years after the end of the research the raw data will be destroyed.

After the study
Following the study, there will be an opportunity to ask questions at the voluntary focus groups. An executive summary will be sent to teachers and senior staff at the schools. This summary will be shared in the Local Authority and beyond. It is hoped that a research article may result from the study. A simplified version of the executive summary will be made available for the schools to share with their students.

If the intervention is effective it will be shared more widely. Pupils in the control class could then access this in P7.

If you have any questions, please contact me using the details below.
Kelton Green CPsychol AFBPsS, Educational Psychologist
Psychological Service address
Tel XXXXXXXXXXX work email

Appendix 7.13 Teacher Written Consent Form

Teacher Consent Form

Research is being conducted into the teaching of writing in the Local Authority in connection with Dundee University. The purpose of the research is to investigate ways of improving student writing through the use of different teaching approaches. This will help to inform future training for teachers and further research into the teaching of writing.

No individuals will be identified or traced from this. Your name is required at this point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

If you agree to participation in the study and for the use of your data for research purposes and publication please print and sign your name, along with the date below:

I agree to participation in the study and for the use of my data for research purposes and publication.

NAME: _____

SIGNATURE: _____

DATE: _____

Appendix 7.14 Elementary Teacher Intervention Training Power Points

WRITE AWAY

Kelton Green
Psychological Service

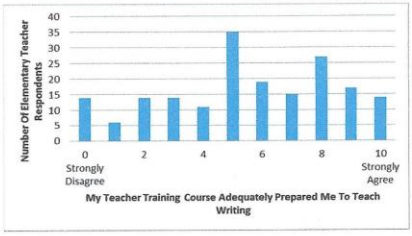
Aims

- To consider the reasons for the Write Away programme
- To introduce the Write Away programme
- To provide an opportunity to explore the Write Away materials

Why Focus on Writing?

- Literacy ≠ reading and spelling only
- Scottish Survey of Literacy and Numeracy. Pupils performing well, very well or beyond the level in 2014:
  - 64 per cent in P4
  - 68 per cent in P7
  - 55 per cent in S2
- Essential life skill; becoming more important in digital age (European Commission, 2012)
- Writing supports learning; used to measure learning
- "People say they can't draw when they mean they can't see, and that they can't write when they mean they can't think." Aaron Haspel, 2012

Teacher Writing Survey 2015



More Functional Writing?

One primary teacher commented, "I feel strongly that functional writing is the most relevant or purposeful as a life skill, and should receive the strongest focus as creative/imaginative writing is rarely if ever used in adulthood…"

Do you agree?

What Does Not Improve Writing?

Traditional grammar instruction does *not* improve writing(Graham et al., 2012; Graham et al., 2007, English Review Group, 2004).

- "Writing is a top-down process, and its "basic skills" are not grammatical rules, but rhetorical strategies pertaining to the different stages of the writing process: strategies for invention, research, arrangement, drafting, discussing, and revising. Those arguing that grammar instruction will improve students' writing need to recognize that, at most, the rules of grammar comprise one small piece of a complex process that begins with and supports the students' intention to communicate." Prof. Sean Zwagerman (2015)

What Improves Writing?

- Plan, draft, revise edit strategy instruction alongside self-regulation (Fidalgo et al., 2008; Harris, Lane, Graham et al., 2012; Graham et al., 2012).
- Process/Product Goals (Graham et al., 2012)
- Assessing Writing With Feedback From Adults (Graham et al., 2012)
- Peer Assistance With Revision (Graham et al., 2007)
- Individual laptop and internet access at home and school for a year plus teacher training (Lowther et al., 2003)
- Text structure instruction (Graham et al., 2012)
- Teach knowledge of genre features (Hoogeveen, 2012)
- Provide evaluation criteria MacArthur, 2013)
- Teacher modelling (Schunk et al., 1991, 1993)
- Authentic purposes (Purcell-Gates et al., 2007)
- Extra time for writing (Graham et al., 2012)

Step 1: Introduce the Write Away process, genre knowledge and how to evaluate writing.

- Look at your programme.
- Activate prior knowledge
- Introduce Mnemonic GRIST.
- Teach the meaning of compare and contrast
- Pupils compare the good compare and contrast essay with a mediocre one in pairs then discuss as a class
- They discuss the "How to Structure your Compare and Contrast Essay" sheet.
- Encourage learning of the mnemonics

The Write Away Process

GRIST

- **Goal** Different goals lead to different genre choices, e.g. narrate – story, inform – compare/contrast, cause/effect etc. How will you know if you have achieved your goal?
- **Reader:** Who will read it? Think about age and experience. Take into account: language style, vocabulary, clarity, length. Maintain interest - varied sentences, language features, content.
- **Ideas:** What are you writing about? Think of ideas and select which to use. Do you have enough good content? Do you need to find out more about anything? Put ideas in paragraphs with a topic sentence.
- **Structure:** Most texts need an introduction, development and conclusion. Compare contrast (int, sim,dif, conc). Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps. Use the structure for that genre. Ideas in paragraphs. Paragraphs in a sensible order.
- **Tied Together:** Text needs to be linked. Use transition words or phrases to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. Use a good model essay to support this. Think of ties you might use: *Firstly, secondly, thirdly...first, then, next ...and, also, in addition, furthermore...however, but, although, nevertheless...therefore, consequently*

Compare and Contrast

All Social Studies curricula at BGE include compare and contrast activities. It is a useful non-fiction form of writing. It also supports thinking.

Together compare model essays #1 and #2. Consider the GRIST mnemonic.

Then consider the better essay in light of the How to Structure sheet.

Step 2: Provide and model the planning strategy

- **Think Plan Draft Revise Edit process**
- Model planning a compare and contrast essay using think aloud – makes it visible.
- Think: Refer to GRIST mnemonic
- Jot ideas
- Perhaps research a little
- Plan using C and C structure: Introduction, Similarities, Differences, Conclusion
- Use graphic organiser or write those headings
- Something important or interesting for the introduction!

Modelling

Modelling enables pupils to hear the inaudible thinking process. Try to keep it authentic. Refer to the writing strategies you are using but also how you are regulating what you do.

Key Elements

- Respond to the essay prompt
- Demonstrate the strategies, linking them to success
- Refer to the Mnemonics
- Use goals
- Question yourself ...then answer
- Instruct yourself
- Encourage yourself

Shorten the think aloud and do it in smaller chunks if attentions drift. Alternatively, switch to a collaborative whole class think aloud and involve the pupils more actively, asking them to share what they might think as they write.

Demonstration

- What did you notice about the demonstration of the planning stage?

Pupils plan

- Finished essays to be shared in room and library.
- Pupils support each other planning their individual essays.
- Pupils discuss content while producing their own plans.
- They could jot what they know about the topic and then identify areas of similarity/difference or could put these directly into the graphic organiser.
- Can research more information if appropriate and jot some notes.
- They explain their final plan to their peer. They can use that discussion to inform or change their plan.
- Have the Write Away Process sheet and How to Structure Sheet to refer to.

Step 3 : Provide and model the drafting strategy

- **No evidence collaborative drafting helps**. Do individually.
- Double spaced so can revise/edit later.
- Model drafting intro then they do it and so on .
- Focus on content
- Use the graphic organiser or those headings from a plan
- Refer to How to Structure sheet too
- Topic sentences
- Tied together
- Continue to encourage and instruct yourself
- State goal and say when achieved

Flaubert:"Prose is like hair…it shines with brushing."

- Charles Dickens. Show this to students.
- Revision is associated with quality. All good writers do it. Improves grades in exams.
- "Never send a letter or a memo on the day you write it. Read it aloud the next morning—and then edit it" David Ogilvy, 1982. A time-lag is helpful.
- Revise vs Edit.
- "If it is something important, get a colleague to improve it." Ogilvy, 1982. Peer revision improves quality. Who doesn't do it as an adult?

Step 4 : Provide and model revising and editing strategies

- Editing is more like making corrections (spelling, punctuation, grammar, font for IT). Easy to get distracted by editing so focus on revision first.
- Revising with a peer is a useful way of improving work but they must revise it themselves first.
- Revise = REA/D Re-Read, Evaluate, Alter/Delete (add, remove, rearrange, replace). Focus on content and structure. Remember Dickens. Cross out, use arrows, use carets, arrows, asterisks with numbers for additions or use cut and stick with Pritt sticks on to fresh paper etc.
- Revise to Improve Sheet
- Model this first then they do it individually then with a peer.

Revising Individually

Use READ = Reread, Evaluate, Alter/Delete.

- Re-read your writing on your own first.
- What are the best bits?
- Have the goals for the text been met?
- Will the text be suitable for the reader? Does it make sense?
- Do any of the ideas need changing?
- Is the writing well structured? - Introduction, development, conclusion?
- Are the paragraphs tied together? Are the ideas in each paragraph linked?
- Write on the draft what you will add or delete or *re-arrange*. You can re-arrange (move) paragraphs or a few sentences through cut and stick if you like. Alternatively use arrows.

Peer revision

- Ground Rules.
- Agree whose writing will be revised first.
- Revise using REA/D
- Remember to start with compliments. Be polite.
- Together, think about how you might change the work. Make suggestions politely rather than just saying such and such is wrong. The writer has the final say for their writing.
- The writer marks the revisions on their draft. Using a different colour helps. You could read it aloud as a final check.
- Swap over and revise the other piece of writing.
- Edit each other's writing in the same way.

Editing

- Check spelling and punctuation (capital letters, full stops and so on).
- Check grammar (e.g. "It went" rather than "It wented") and number agreement (e.g. "four houses" rather than "four house"; "It was" rather than "It were").
- For IT amend font size, style.
- Use peer editing in the same way as peer revision.

Revision task

Using the How to revise sheet firstly take a shot at revising the text about Kenya individually. Then discuss your revisions together.

It is a bit like what the pupils experience except they will be more emotionally involved.

What did they notice about the revisions they made?

Feedback

- During the production of essays adults give oral feedback in classes.
- After each essay, pupils are asked what they think of their essays.
- Did they achieve their goal?
- What do they think of their writing quality?
- How helpful are the mnemonics?
- What did they think of peer revision and peer editing?
- Anything they would do differently next time?
- Final copies shared with class in a folder and perhaps with the library.

Step 5 –Develop independent use of Write Away process.

- Reinforce the Write Away process, genre knowledge and how to evaluate writing.
- Work towards increased independence.
- Pupils independently plan and draft a second compare and contrast essay on loose paper. Double spaced. Write Away TPDRE sheet, graphic organiser and the How to Structure Sheet are all still available
- Remind them that they need to learn the process and the mnemonics.
- Peer revision and editing.

My Very Easy Method Just Speeds Up Naming Planets…

- Mnemonics and repetition help us remember things. Refer to them. Test them.(Testing improves recall- unfortunately!)
- GRIST and REA/D
- Structure of a compare and contrast essay (Introduction, Similarities, Differences, Conclusion) IDC is used for many other genres.
- TPDRE –Think Plan Draft Revise Edit process. This process can be used for other writing genres

Next time

- We can discuss the programmes further
- Research requirements
- Consents and assessments
- Questionnaires
- Will be at other school

Any Questions?

Thank you

If you have any further queries contact Kelton Green on work email or XXXXXXXXXX

WRITE AWAY

PART TWO

Kelton Green
Psychological Service

Aims

- Brief recap of the programme
- Consents
- Questionnaires
- Assessments
- Other research requirements

The Write Away Process

GRIST

- **Goal** Different goals lead to different genre choices, e.g. narrate – story, inform – compare/contrast, cause/effect etc. How will you know if you have achieved your goal?
- **Reader:** Who will read it? Think about age and experience. Take into account: language style, vocabulary, clarity, length. Maintain interest - varied sentences, language features, content.
- **Ideas:** What are you writing about? Think of ideas and select which to use. Do you have enough good content? Do you need to find out more about anything? Put ideas in paragraphs with a topic sentence.
- **Structure:** Most texts need an introduction, development and conclusion. Compare contrast (int, sim,dif, conc). Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps. Use the structure for that genre. Ideas in paragraphs. Paragraphs in a sensible order.
- **Tied Together:** Text needs to be linked. Use transition words or phrases to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. Use a good model essay to support this. Think of ties you might use: *Firstly, secondly, thirdly...first, then, next ...and, also, in addition, furthermore...however, but, although, nevertheless...therefore, consequently*

My Very Easy Method Just Speeds Up Naming Planets…

- GRIST
- REA/D
- Structure for compare and contrast: Introduction, Similarities, Differences, Conclusion

Five Teaching Steps

- Step 1: Introduce the Write Away process, genre knowledge and how to evaluate writing
- Step 2: Provide and model the planning strategy
- Step 3 : Provide and model the drafting strategy
- Step 4 : Provide and model revising and editing strategies
- Step 5 –Develop independent use of Write Away process

Consent

- Pupil Participant Information Sheet – discuss it with the class
- Cover letter and PP Information Sheet to parents
- Written consent of pupils
- Will be anonymous
- Consent needed from pupils in control classes too
- Pupils have the option to not do the intervention. They will still write essays but will not be given the supports and can get on with that while the rest are teaching.
- Send DOBs of participants (control and intervention) to K Green

Questionnaires

- Must be anonymous: explain this to the children. Do not want names on.
- Explain the rating scale
- Read the questions aloud for them
- Will do before they start the intervention and the week following the six week intervention

Assessments

- Done before and after the intervention period
- Instructions. Read the question if requested but do not give further explanation.
- All P6 students complete them
- Exam conditions with up to 90 minutes available
- Task A and Task B – alternate on class list
- Must have names on
- You do not have to mark them. I do not want to see the essays they have written in between.

Other Research Requirements

- Pre and Post teacher questionnaires.
- Keep a simple teaching log. Comments and dates when elements were done.
- Observation of intervention and control class.
- After the post writing assessment set aside 5 minutes to talk with the students about the intervention; what they thought of it, what questions they might have.
- You will have the opportunity to volunteer for a focus group to review the intervention.
- An executive summary will be produced and shared with the teachers. A simplified version will be given to the school to share with students.

Additional Information

Alongside the names of all the pupils need to know:

- The age in months of all the pupils at the start of the intervention i.e. April – could Seemis do this?
- Their gender
- Percentage of pupils P4-7 who are eligible for Free School Meals

Any Questions?

Thank you

If you have any further queries contact Kelton Green on work email or XXXXXXXXXX

Appendix 7.15 Elementary Pupil Information Sheet

Primary Pupil *Write Away* Project Information Sheet

Introduction
I am researching the teaching of writing with Dundee University. I want to know how best to teach essay writing so this can be shared with other teachers. I have developed a writing programme called "*Write Away*".

I want to know if the *Write Away* programme helps to improve P6 pupils' writing. I also want to know if pupils enjoy the programme and if makes them feel they have got better at writing.

What will happen?
The *Write Away* programme will last for six weeks. One P6 class will follow the *Write Away* programme and one class will continue with their usual teaching and not follow the programme. As part of these programmes pupils will write two essays. This will all happen within the normal timetable, with their normal teacher and in their normal class. There will be no extra lessons.

Which class of P6 pupils follows the *Write Away* programme will depend on which teachers would prefer to try it out just now. I need one class to not do *Write Away* so that I can see if there are differences in writing skills between those pupils who have done *Write Away* and those who have not.

A writing task will be given to all the P6 pupils before and after the *Write Away* programme. This will take about an hour and will happen during lessons. There will also be a few simple questions which will be done in class before and after the intervention. These will take no more than five minutes.

Who is involved?
All pupils will be given the chance to say they do not want to be part of the project. If they do not want to be part of it they will be given different things to do. They will still be doing writing in school. Pupils will be given information about the project and asked to sign that they agree to be a part of it and will let their scores and written comments be included. The project might be published. The information from the tasks and questions will be stored safely and destroyed ten years after the end of the research.

After the project
There will be a chance to ask questions of your teacher at the end of the project. A summary will be sent to the school. This will say what we have learnt about the programme. This summary will be shared in the Local Authority and beyond. An easier-to-read summary will be given to the school to share with pupils. They will be able to take this home.

If we find that *Write Away* helps pupils' writing get better then other teachers will be able to have the training. The pupils in the class that did not do *Write Away* will be able to do it in P7 if it is shown to help improve pupils' writing.

If you have any questions, please contact me using the details below.
Kelton Green CPsychol AFBPsS, Educational Psychologist
Service address, Tel: XXXXXXXXXXX work email

Appendix 7.16 Pupil Consent Form

Pupil Consent Form

Research is being conducted into the teaching of writing at P6 of Primary School in the Local Authority in connection with Dundee University. The purpose of the research is to investigate ways of improving student writing through the use of different teaching approaches. This will help to inform future training for teachers and further research into the teaching of writing.

No individuals will be identified or traced from this. Your name is required at this point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

If you agree to the two writing tests and your responses to questions about writing to be included in data for the research please print and sign your name, along with the date below:

I agree to my writing tests and writing questions responses being used for research purposes and publication.

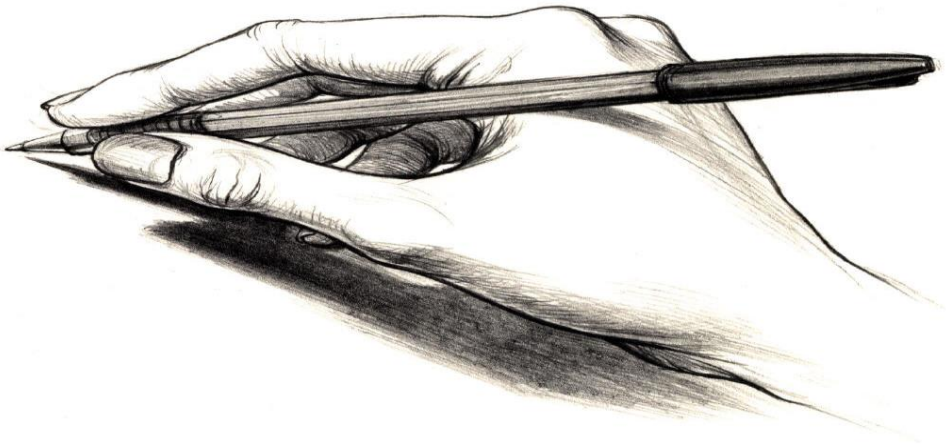
NAME: _____

SIGNATURE: _____

DATE: _____

Appendix 8.1 High School Write Away Intervention Programmes

Write Away



Programme and Rationale
One Teacher Delivery

Kelton Green
Psychological Service

The steps of the programme need to be completed in order. The number of lessons required for each step will be dependent upon the context.

Teaching Elements	Rationale	Purpose
Step 1 – Introduce the *Write Away* process, genre knowledge and how to evaluate writing. Explain it is part of research being done into improving writing. Anyone with objections can do independent written work instead. Brainstorm and discuss how and what extended writing they currently do in school. Discuss the importance of writing well: for communication, for academic assessments and for learning. Introduce programme: the aim is to improve the quality of their extended writing. Introduce the Mnemonic GRIST. This is useful for producing and evaluating writing. Students need to learn the mnemonics. Goals e.g. inform, describe, narrate, persuade. Different goals lead to different genre choices, e.g. narrate – story, recount, script; persuasive essays, adverts; inform – e.g. cause and effect, compare and contrast essays. Reader (a.k.a. audience) must be considered e.g. language style, language features, vocabulary, maintaining interest, length. Ideas need to be pertinent ones, answering the question, linked together. Put ideas in paragraphs with a topic sentence. Structure: tend to have introduction, development and conclusion. Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps. Tied together Use transition words (linking words/phrases) to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. They have an important impact on quality. Use a good model compare and contrast essay to support this. Discuss the meaning of compare and contrast: to consider similarities and differences. To compare also means this while to contrast is to consider only differences. When might they do this? Compare the good compare and contrast essay with a mediocre quality one in pairs then discuss as a class, looking at the areas above. Different genres have different structures; can they see a structure in the good one? The simplest structure to use is: introduction, similarities, differences and conclusion. Discuss the compare and contrast essay prompt sheet. Side one explains the process, side two gives the structure and prompts for writing a good essay: focus more on this page first.	Activate prior knowledge (Lassonde and Richards, in Graham et al., 2013) Set a process (learning) goal (Schunk et al., 1991, 1993). Provide product goals (Graham et al., 2007; Rogers et al., 2008). Increase motivation and feelings of self-efficacy by setting and evaluating progress towards goals. (Schunk, 1994). Help students remember product goals through mnemonics (De la Paz, 1999; Fidalgo et al., 2008). Provide text structure instruction (Graham et al., 2012; Fidalgo et al., 2015) Study good models (Corden, 2007; Knudson, 1989). Compare good and mediocre models with reference to a product goals mnemonic (Torrance et al., 2015). Teach knowledge of genre features (Hoogeveen, 2012)	activate prior knowledge, motivation, process goal, models, product goal, text structure,

Teaching Elements	Rationale	Purpose
Step 2 Provide and model planning strategy Remind of GRIST and IDC. Writing is a process: think, plan, draft, revise, edit. Recursive. It's important that students know that this does not have to be linear. Expert writers tend to plan. You could show a manuscript. Don't need to spend ages planning, provided keep re-reading and amending text and altering what one plans to write. One might be doing different elements simultaneously. Write Away Process (GRIST/TPDRE) sheet supports this. To plan, TROD: Think without writing anything immediately. Then jot down ideas as words/phrases, might be quotes, decide what else you need to know; Research what you need to find out and then return to planning; Organise according to the relevant structure; graphic organisers can help. Develop the text, amending the plan as need be. If they've altered it in their heads they don't necessarily have to alter the plan on the paper. The goal is good writing not good planning sheets. Important point: writing supports learning, as one writes one's views/understandings are likely to change and therefore the product. Will be producing better compare and contrast essay writing (process goal). The essays will be shared in a folder in the class room and perhaps in the library. Model planning a compare and contrast essay. They will be discussing how you did it afterwards. You "think aloud" i.e. make known the thinking processes using the aide memoire. Refer to GRIST, TROD the How to Structure sheet and the graphic organiser. Self-regulate through goals and positive statements. If class are restless can do as shared writing as a whole class. Important to make the thinking processes clear to the students. As a class discuss in pairs then as a class what they noticed about how you planned. In pairs, students support each other in planning their individual compare and contrast essays. Content matter is determined by the teacher. Their individual plans are on separate pieces of paper. Jottings /crossings out are fine. Their plans do not have to be the same. Students discuss the content while producing their own plans. They could jot what they know about the topic and then identify areas of similarity/difference or they could put these directly into the graphic organiser. They explain their final plan to their peer. They can use that discussion to inform or change their plan. They have the compare and contrast essay sheet, the how to structure sheet and the graphic organiser. This is an opportunity to research more information if appropriate and jot some notes. You give feedback, circulating the classroom. Discuss how they find it.	Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Some students alter their understanding of a topic little when writing- these profit most from a planning strategy. Some students learn as they write- these benefit most from a draft-revise strategy (Baaijen et al., 2014) Set process goal (Schunk et al., 1991, 1993) and product goals (Graham et al., 2007; Rogers et al., 2008). Teach self-regulation (goal setting, self-monitoring) via the use of teacher modelling (Schunk et al., 1991, 1993) Provide adult feedback (Graham et al., 2012, Hattie, 2009). Collaboration improves writing quality (Graham et al., 2007). Teach knowledge of genre features (Hoogeveen, 2012). Provide an authentic purpose for informational writing (Purcell-Gates et al., 2007)	Strategy instruction, self-regulation, collaboration, feedback, Product goals, modelling, authentic purpose,

Teaching Elements	Rationale	Purpose
Step 3 Provide and model drafting strategies How to draft a compare and contrast essay will be modelled in stages using think aloud. Use the aide memoire to get the approach: the content of the essay is up to you. Write draft at the top. Remind them that their finalised essays will be collated when finished and shared in the room and in the library. Remember: • Double spaced • Focus on content • Use the graphic organiser or those headings from a plan • Continue to encourage and instruct yourself • Topic sentences • Tied together Draft the introduction using the aide memoire and the graphic organiser/plan you made previously. The pupils then draft their introductions independently double-spaced (to aid revision) on paper using their graphic organiser/plan. They also have the How to Structure sheet. You give feedback, circulating the classroom. Draft the similarities paragraph. The pupils then draft their similarities paragraphs independently. You give feedback, circulating the classroom. Draft the differences paragraph. The pupils then draft their differences paragraphs independently. You give feedback, circulating the classroom. Draft the conclusion. The pupils then draft their conclusions independently. You give feedback, circulating the classroom. You may want to do more than one section at a time if you wish, such as the introduction and the similarities paragraph in one lesson and the remainder in another. Do what suits your class the best.	Provide an authentic purpose for informational writing (Purcell-Gates et al., 2007) Teach self-regulation (goal setting, self-monitoring) via the use of teacher modelling (Schunk et al., 1991, 1993) Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Provide adult feedback (Graham et al., 2012, Hattie, 2009).	Strategy instruction, self-regulation, feedback, modelling, authentic purpose,

Teaching Elements	Rationale	Purpose
Step 4 Provide and model revising and editing strategies Remind of GRIST, IDC, TROD. Revision and editing. Revision improves writing quality - all good writers do it. Highlight the value of having a time lag between drafting and revising if possible. It lets one see it as a reader. Editing is more like making corrections (spelling, punctuation, grammar, font for IT). It is easy to get distracted by editing rather than revising so it helps to focus on revision first. Revising with a peer is a useful way of improving work: even adults do this. To revise: REA/D Re-Read, Evaluate, Alter/Delete (add, remove, rearrange, replace). Focus on content and structure rather than spelling. They may need to create new paragraphs. Evaluation is the key to revision. GRIST helps this. Refer to it and the compare and contrast structure. Discuss the sorts of things to consider. What are the best bits? Have the goals been met? Is it suitable for the reader? Does it make sense? Do any of the ideas need changing? Have you used the correct structure? Are the paragraphs tied together? Are ideas in paragraphs tied together? (All but the first one are in GRIST). Model revising, thinking aloud as before. Use the Revise to Improve sheet as a prompt and refer to REA/D and GRIST, as above. Write over the top, cross out, use carets, arrows, asterisks with numbers for additions or use cut and stick approach with Pritt sticks on to fresh paper (or blu tac on sugar paper in front of class) or IT. Mark the revisions in a different colour. Use positive self-statements. Finish by using the Compare and Contrast Essay Checklist. This may result in further revisions. In time they should not need the checklist: just to remember REA/D and GRIST. Drafts (unmarked) are returned. Students revise in class the draft they worked on at step 3. They have the Revise to Improve sheet and the Compare and Contrast Essay Checklist. Students look at their own work (preferably at start of a new lesson) for 5-10 minutes. Re-read it and find things to alter/delete. Discuss the importance of compliments, being polite and letting the writer have the final say in peer revision. In pairs the students read each other's texts. They are only giving advice. They consider the revision prompts. *Together* they think about how they would change the work. Mark the revisions on the draft in a different colour. Use a cut and stick approach to support this where appropriate; it might be fun and would teach them how to use the technique for IT. Read it aloud. May warrant further changes. Then exchange roles and papers. Teacher models editing briefly (punctuation, spelling, grammar). Students edit their own and each other's work. They produce a final copy. You give feedback. What do the students think of their essays? Did they achieve their goal? What do they think of their writing quality? How helpful are the mnemonics? What did they think of peer revision and peer editing? Anything they would do differently next time? Final copies shared with class in a folder and perhaps the library.	Teach strategies for revision of writing (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Revision is associated with better writing quality (Corden, 2007; Hough et al., 2012; Fidalgo et al., 2008) and improved understanding of the topic (Baaijen et al., 2014). Revision at the text rather than word level (like spelling) leads to greater improved writing quality (Zhang, 2001). Provide evaluation criteria and the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013). Facilitate peer revision. This, integrated with instruction in evaluation and revision, improves the writing quality of subsequent writing produced independently (Boscolo et al., 2004). Peer revision also provides the reviewing student with the opportunity to develop their critical reading skills (MacArthur in Graham et al., 2013). Students to consider how they have done in terms of product and process goals (Schunk et al., 1991, 1993; Graham et al., 2007).	Strategy instruction, product goals, process goals, text structure, collaboration, modelling, feedback, self-regulation

Teaching Elements	Rationale	Purpose
Step 5 Develop independent use of *Write Away (Essay 2)* Encourage students to memorise the acronyms GRIST, TROD and REA/D, to remember to Think, Plan, Draft, Revise, Edit. IDC and remind them of the compare and contrast structure: intro, similarities, difference and conclusion. Discuss what they mean as a class. They could write these down when they don't have prompts available, for example in a test or at home. Students <u>independently</u> plan and draft a compare and contrast essay on loose paper. Double spaced. Content determined by the teacher. Compare and contrast essay sheet, graphic organiser and the How to Structure sheet are all still available. However, remind them that they will not be available in exams; they need to learn the process and the mnemonics. At the start of a different lesson (to provide time lag) they firstly spend 10 minutes revising using REA/D (Re-read, evaluate, alter/delete). They have the compare and contrast checklist and the Revise to Improve sheet available to support this. They use a different colour (and cut and stick if needed) on their own. Peer revision is a very effective way of improving writing quality, both in the texts being examined and future writing produced. It should therefore continue throughout and beyond the programme. In pairs the students read each other's texts. They consider the revision prompts: Find things to praise. Is the meaning clear? Have they met the goals for the type of text? Have they considered the reader? Any of the ideas they would change? Have they got the structure? Have they language features? Is it tied together? Together they think about how they would change the work. They negotiate this. Next, edit the work: capital letters, punctuation and spelling. Then exchange roles and papers. The students produce their final copy. Feedback provided from adults. Shared with class/library in a folder. Students evaluate how they have done in terms of product (the text) and process (their ability to write this genre). What do they think of their writing abilities now? What will they do for similar tasks in future?	Support memorisation through mnemonics (Harris et al., 2009). Develop independent performance by removing supports (Harris et al., 2009, Fidalgo et al., 2008) Provide evaluation criteria and the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013). Facilitate peer revision. This, integrated with instruction in evaluation and revision, improves the writing quality of subsequent writing produced independently (Boscolo et al., 2004). Peer revision also provides the reviewing student with the opportunity to develop their critical reading skills (MacArthur in Graham et al., 2013). Provide adult feedback (Graham et al., 2012, Hattie, 2009). Students consider how they have done in terms of product and process goals (Graham et al., 2007; Rogers et al., 2008), thus developing self-efficacy (Schunk et al., 1991, 1993).	Strategy instruction, product goals, process goals, text structure, collaboration, feedback, self-regulation, authentic purpose

Continue to refer to the mnemonics GRIST, IDC, TROD, REA/D and the writing process. Continue to use peer revision of extended writing.

GRIST:
Goals e.g. inform, describe, narrate, persuade. Different goals lead to different genre choices, e.g. narrate – story, recount, script; persuasive essays, adverts; inform – e.g. cause and effect, problem and solution essays.
Reader (a.k.a. audience) must be considered e.g. language style, language features, vocabulary, maintaining interest, length.
Ideas need to be pertinent ones, answering the question, linked together. Put ideas in paragraphs with a topic sentence.
Structure: tend to have introduction, development and conclusion (**IDC**). Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps.
Tied together Use transition words (linking words/phrases) to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. Use a good model cause and effect essay to support this.

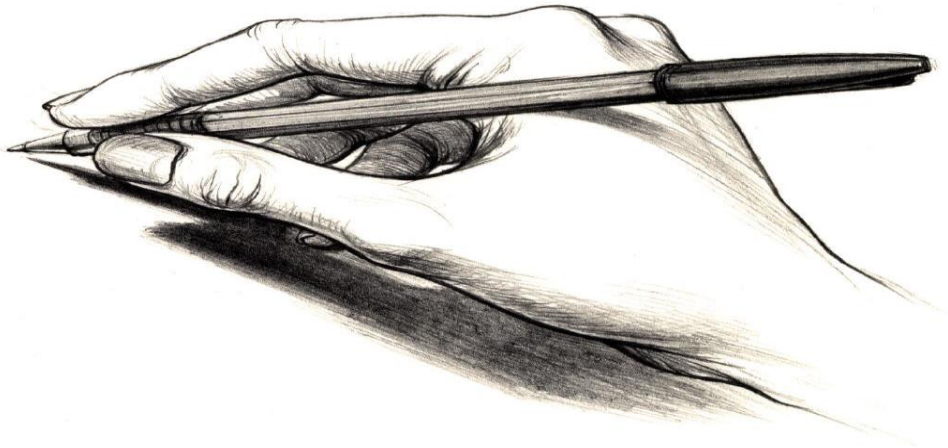
TROD:
Think without writing anything immediately. Then jot down ideas as words/phrases, might be quotes, decide what else you need to know;
Research what you need to find out and then return to planning;
Organise according to the relevant structure;
Develop the text, amending the plan as need be.

REA/D:
Re-Read the text
Evaluate using GRIST. Find things to praise. Is the meaning clear? Have they met the goals for the type of text? Have they considered the reader? Any of the ideas they would change? Have they got the structure? Have they language features? Is it tied together?
Alter/Delete make the appropriate changes. Add, remove, replace, rearrange at text, sentence and word level. May need to add paragraphs.
If they revise using IT at home suggest printing it off to revise. One may also have had time to think again about the ideas in the essay and want to change it. Revising with a peer is a useful way of improving work: even adults do this.

Editing: It is easy to get distracted by editing and to neglect revising. One needs to do both. Check punctuation, spelling, grammar and change accordingly. If using IT one may alter fonts, sizes and so on.

Similarities and Differences /Compare and Contrast structure: introduction, similarities (1-2 paras), differences (1-2 paras) and conclusion.
Writing Process: Think, Plan, Draft, Revise, Edit.

Write Away



Programme and Rationale
English Teacher and Social Studies Teacher Delivery

Kelton Green
Psychological Service

The steps of the programme need to be completed in order. The number of lessons required for each step will be dependent upon the context. The English teaching precedes the integrated Social Subjects intervention component. Each component should be 3 weeks.

English Teacher

Teaching Elements	Rationale	Purpose
Step 1 – Introduce the *Write Away* process, genre knowledge and how to evaluate writing. Explain it is part of research being done into improving writing. Anyone with objections can do independent written work instead. Brainstorm and discuss how and what extended writing they currently do in school. Discuss the importance of writing well: for communication, for academic assessments and for learning. Introduce programme: the aim is to improve the quality of their extended writing. Introduce the Mnemonic GRIST. This is useful for producing and evaluating writing. Students learn the mnemonics. **Goals** e.g. inform, describe, narrate, persuade. Different goals lead to different genre choices, e.g. narrate – story, recount, script; persuasive essays, adverts; inform – e.g. cause and effect, compare and contrast essays. **Reader** (a.k.a. audience) must be considered e.g. language style, language features, vocabulary, maintaining interest, length. **Ideas** need to be pertinent ones, answering the question, linked together. Put ideas in paragraphs with a topic sentence. **Structure**: tend to have introduction, development and conclusion. Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps. **Tied together** Use transition words (linking words/phrases) to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. They have an important impact on quality. Use a good model compare and contrast essay to support this. Discuss the meaning of compare and contrast: to consider similarities and differences. To compare also means this while to contrast is to consider only differences. When might they do this? Compare the good compare and contrast essay with a mediocre quality one in pairs then discuss as a class, looking at the areas above. Different genres have different structures; can they see a structure in the good one? The simplest structure to use is: introduction, similarities, differences and conclusion. Discuss the compare and contrast essay prompt sheet. Side one explains the process, side two gives the structure and prompts for writing a good essay: focus more on this page first.	Activate prior knowledge (Lassonde and Richards, in Graham et al., 2013) Set a process (learning) goal (Schunk et al., 1991, 1993). Provide product goals (Graham et al., 2007; Rogers et al., 2008). Increase motivation and feelings of self-efficacy by setting and evaluating progress towards goals. (Schunk, 1994). Help students remember product goals through mnemonics (De la Paz, 1999; Fidalgo et al., 2008). Provide text structure instruction (Graham et al., 2012; Fidalgo et al., 2015) Study good models (Corden, 2007; Knudson, 1989). Compare good and mediocre models with reference to a product goals mnemonic (Fidalgo et al., 2015). Teach knowledge of genre features (Hoogeveen, 2012)	activate prior knowledge, motivation, process goal, models, product goal, text structure,

Teaching Elements	Rationale	Purpose
Step 2 Provide and model planning strategy Remind of GRIST and IDC. Writing is a process: think, plan, draft, revise, edit. Recursive. It's important that students know that this does not have to be linear. Expert writers tend to plan. You could show a manuscript. Don't need to spend ages planning, provided keep re-reading and amending text and altering what one plans to write. One might be doing different elements simultaneously. Write Away Process (GRIST/TPDRE) sheet supports this. To plan, TROD: **Think** without writing anything immediately. Then jot down ideas as words/phrases, might be quotes, decide what else you need to know; **Research** what you need to find out and then return to planning; **Organise** according to the relevant structure; graphic organisers can help. **Develop** the text, amending the plan as need be. If they've altered it in their heads they don't necessarily have to alter the plan on the paper. The goal is good writing not good planning sheets. Important point: writing supports learning, as one writes one's views/understandings are likely to change and therefore the product. Will be producing better compare and contrast essay writing (process goal). The essays will be shared in a folder in the class room and perhaps in the library. Model planning a compare and contrast essay. They will be discussing how you did it afterwards. You "think aloud" i.e. make known the thinking processes using the aide memoire. Refer to GRIST, TROD the How to Structure Sheet and the graphic organiser. Self-regulate through goals and positive statements. If class are restless can do as shared writing as a whole class. Important to make the thinking processes clear to the students. As a class discuss in pairs then as a class what they noticed about how you planned. In pairs, students support each other in planning their individual compare and contrast essays. Content matter is determined by the teacher. Their individual plans are on separate pieces of paper. Jottings /crossings out are fine. Their plans do not have to be the same. Students discuss the content while producing their own plans. They could jot what they know about the topic and then identify areas of similarity/difference or they could put these directly into the graphic organiser. They explain their final plan to their peer. They can use that discussion to inform or change their plan. They have the Compare and Contrast Essay Sheet, the How to Structure Sheet and the graphic organiser. This is an opportunity to research more information if appropriate and jot some notes. You give feedback, circulating the classroom. Discuss how they find it.	Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Some students alter their understanding of a topic little when writing- these profit most from a planning strategy. Some students learn as they write- these benefit most from a draft-revise strategy (Baaijen et al., 2014) Set process goal (Schunk et al., 1991, 1993) and product goals (Graham et al., 2007; Rogers et al., 2008). Teach self-regulation (goal setting, self-monitoring) via the use of teacher modelling (Schunk et al., 1991, 1993) Provide adult feedback (Graham et al.,2012, Hattie, 2009). Collaboration improves writing quality (Graham et al., 2007). Teach knowledge of genre features (Hoogeveen, 2012). Provide an authentic purpose for informational writing (Purcell-Gates et al., 2007)	Strategy instruction, self-regulation, collaboration, feedback, Product goals, modelling, authentic purpose,

Teaching Elements	Rationale	Purpose
Step 3 Provide and model drafting strategies How to draft a compare and contrast essay will be modelled in stages using think aloud. Use the aide memoire to get the approach: the content of the essay is up to you. Write draft at the top. Remind them that their finalised essays will be collated when finished and shared in the room and in the library. Remember: • Double spaced • Focus on content • Use the graphic organiser or those headings from a plan • Continue to encourage and instruct yourself • Topic sentences • Tied together Draft the introduction using the aide memoire and the graphic organiser/plan you made previously. The pupils then draft their introductions independently double-spaced (to aid revision) on paper using their graphic organiser/plan. They also have the How to Structure Sheet. You give feedback, circulating the classroom. Draft the similarities paragraph. The pupils then draft their similarities paragraphs independently. You give feedback, circulating the classroom. Draft the differences paragraph. The pupils then draft their differences paragraphs independently. You give feedback, circulating the classroom. Draft the conclusion. The pupils then draft their conclusions independently. You give feedback, circulating the classroom. You may want to do more than one section at a time if you wish, such as the introduction and the similarities paragraph in one lesson and the remainder in another. Do what suits your class the best.	Provide an authentic purpose for informational writing (Purcell-Gates et al., 2007) Teach self-regulation (goal setting, self-monitoring) via the use of teacher modelling (Schunk et al., 1991, 1993) Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Provide adult feedback (Graham et al., 2012, Hattie, 2009).	Strategy instruction, self-regulation, feedback, modelling, authentic purpose,

Teaching Elements	Rationale	Purpose
Step 4 Provide and model revising and editing strategies. Remind of GRIST, IDC, TROD. Revision and editing. Revision improves writing quality - all good writers do it. Highlight the value of having a time lag between drafting and revising if possible. It lets one see it as a reader. Editing is more like making corrections (spelling, punctuation, grammar, font for IT). It is easy to get distracted by editing rather than revising so it helps to focus on revision first. Revising with a peer is a useful way of improving work: even adults do this. To revise: **REA/D <u>Re-Read, Evaluate, Alter/Delete</u>** (add, remove, rearrange, replace). Focus on content and structure rather than spelling. They may need to create new paragraphs. Evaluation is the key to revision. GRIST helps this. Refer to it and the compare and contrast structure. Discuss the sorts of things to consider. What are the best bits? Have the goals been met? Is it suitable for the reader? Does it make sense? Do any of the ideas need changing? Have you used the correct structure? Are the paragraphs tied together? Are ideas in paragraphs tied together? (All but the first one are in GRIST). Model revising, thinking aloud as before. Use the Revise to Improve Sheet as a prompt and refer to REA/D and GRIST, as above. Write over the top, cross out, use carets, arrows, asterisks with numbers for additions or use cut and stick approach with Pritt sticks on to fresh paper (or blu tac on sugar paper in front of class) or IT. Mark the revisions in a different colour. Use positive self-statements. Finish by using the Compare and Contrast Essay Checklist. This may result in further revisions. In time they should not need the checklist: just to remember REA/D and GRIST. Drafts (<u>unmarked</u>) are returned. Students revise in class the draft they worked on at step 3. They have the Revise to Improve Sheet and the Compare and Contrast Essay Checklist. Students look at their own work (preferably at start of a new lesson) for 5-10 minutes. Re-read it and find things to alter/delete. Discuss the importance of compliments, being polite and letting the writer have the final say in peer revision. In pairs the students read each other's texts. They are only giving advice. They consider the revision prompts. *Together* they think about how they would change the work. Mark the revisions on the draft in a different colour. Use a cut and stick approach to support this where appropriate; it might be fun and would teach them how to use the technique for IT. Read it aloud. May warrant further changes. Then exchange roles and papers. Teacher models editing briefly (punctuation, spelling, grammar). Students edit their own and each other's work. They produce a final copy. You give feedback. What do the students think of their essays? Did they achieve their goal? What do they think of their writing quality? How helpful are the mnemonics? What did they think of peer revision and peer editing? Anything they would do differently next time? Final copies shared with class in a folder and perhaps the library.	Teach strategies for revision of writing (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Revision is associated with better writing quality (Corden, 2007; Hough et al., 2012; Fidalgo et al., 2008) and improved understanding of the topic (Baaijen et al., 2014). Revision at the text rather than word level (like spelling) leads to greater improved writing quality (Zhang, 2001). Provide evaluation criteria and the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013). Facilitate peer revision. This, integrated with instruction in evaluation and revision, improves the writing quality of subsequent writing produced independently (Boscolo et al., 2004). Peer revision also provides the reviewing student with the opportunity to develop their critical reading skills (MacArthur in Graham et al., 2013). Students to consider how they have done in terms of product and process goals (Schunk et al., 1991, 1993; Graham et al., 2007).	Strategy instruction, product goals, process goals, text structure, collaboration, modelling, feedback, self-regulation

English teachers continue to refer to the mnemonics GRIST, the compare/contrast structure, TROD and REA/D and to use peer revision of extended writing for the duration.

Social Studies Teacher

Teaching Elements	Rationale	Purpose
Step 5 Reinforce the *Write Away* process, genre knowledge and how to evaluate writing. Brainstorm and discuss how and what extended writing they currently do in your subject area. Discuss the importance of writing well. You know they have already been doing this in English. Can they remember the acronyms GRIST, TROD and REA/D and the writing process of Think, Plan, Draft, Revise, Edit? (see appendix). Discuss what they mean as a class. Share the *Write Away* TPDRE sheet. Remind of IDC for structuring essays. Who remembers the compare and contrast structure? (intro, similarities, difference and conclusion). They could write these mnemonics down when they don't have prompts available, for example in a test or at home. Share the Compare and Contrast Essay Sheet, compare and contrast graphic organiser and How to Structure Sheet. Talk through them. They need to learn them. Students <u>independently</u> plan and draft a compare and contrast essay on loose paper. Double spaced. Content determined by the teacher. Compare and Contrast Essay Sheet, compare and contrast graphic organiser and the How to Structure Sheet are all available. However, remind them that they will not be available in exams; they need to learn the process and the mnemonics. At the start of a different lesson (to provide time lag) they firstly spend 10 minutes revising using REA/D (Re-read, evaluate, alter/delete). They have the compare and contrast checklist and the Revise to Improve Sheet available to support this. They use a different colour (and cut and stick if needed) on their own. Peer revision is a very effective way of improving writing quality, both in the texts being examined and future writing produced. It should therefore continue throughout and beyond the programme. In pairs the students read each other's texts. They consider the revision prompts on the Revise to Improve Sheet and the Compare and Contrast Checklist. Together they think about how they would change the work. They negotiate this. Next, edit the work: capital letters, punctuation and spelling. Then exchange roles and papers. The students produce their final copy. Feedback provided from adults. Shared with class/library in a folder. Students evaluate how they have done in terms of product (the text) and process (their ability to write this genre). What do they think of their writing abilities now? What will they do for similar tasks in future?	Activate prior knowledge (Lassonde and Richards, in Graham et al., 2013) Set a process (learning) goal (Schunk et al., 1991, 1993).Provide product goals (Graham et al., 2007; Rogers et al., 2008). Increase motivation and self-efficacy by setting and evaluating progress towards goals. (Schunk, 1994). Help students remember product goals through mnemonics (De la Paz, 1999; Fidalgo et al., 2008). Support memorisation through mnemonics (Harris et al., 2009). Plan, draft, revise, edit writing strategy instruction alongside self-regulation improves quality (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008). Students consider how they have done in terms of product and process goals (Graham et al., 2007; Rogers et al., 2008), thus developing self-efficacy (Schunk et al., 1991, 1993).	activate prior knowledge, motivation, strategy instruction, product goals, process goals, text structure, collaboration, feedback, self-regulation, authentic purpose

Continue to refer to the mnemonics GRIST, the compare/contrast structure, TROD and REA/D and to use peer revision of extended writing for duration of intervention.

GRIST:
Goals e.g. inform, describe, narrate, persuade. Different goals lead to different genre choices, e.g. narrate – story, recount, script; persuasive essays, adverts; inform – e.g. cause and effect, problem and solution essays.
Reader (a.k.a. audience) must be considered e.g. language style, language features, vocabulary, maintaining interest, length.
Ideas need to be pertinent ones, answering the question, linked together. Put ideas in paragraphs with a topic sentence.
Structure: tend to have introduction, development and conclusion (**IDC**). Introductions explain the objective of the essay, attract interest and describe what will be covered. Development is the main body, in paragraphs, sensible order. Each development paragraph starts with a topic sentence. The main idea is given followed by detailed ideas, examples to clarify the main idea in that paragraph. The conclusion summarises and adds insights, perhaps next steps.
Tied together Use transition words (linking words/phrases) to introduce (e.g. "firstly"), and connect (e.g. "furthermore"), ideas within and between paragraphs. Use a good model cause and effect essay to support this.

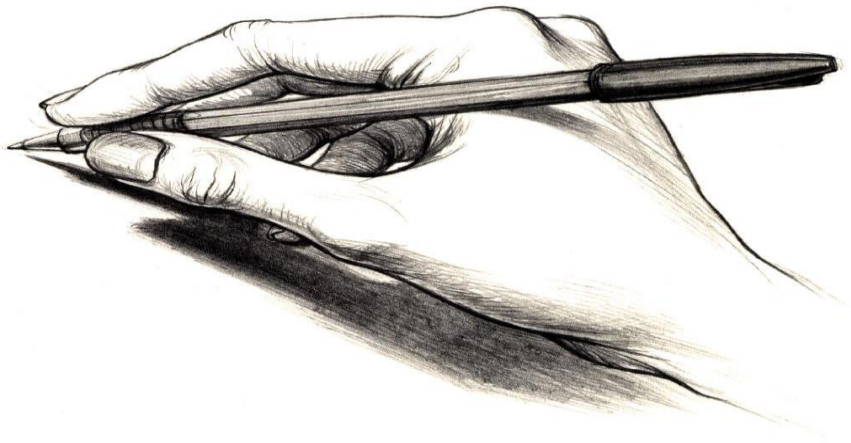
TROD:
Think without writing anything immediately. Then jot down ideas as words/phrases, might be quotes, decide what else you need to know;
Research what you need to find out and then return to planning;
Organise according to the relevant structure;
Develop the text, amending the plan as need be.

REA/D:
Re-Read the text
Evaluate using GRIST. Find things to praise. Is the meaning clear? Have they met the goals for the type of text? Have they considered the reader? Any of the ideas they would change? Have they got the structure? Have they language features? Is it tied together?
Alter/Delete make the appropriate changes. Add, remove, replace, rearrange at text, sentence and word level. May need to add paragraphs.
If they revise using IT at home suggest printing it off to revise. One may also have had time to think again about the ideas in the essay and want to change it. Revising with a peer is a useful way of improving work: even adults do this.

Editing: It is easy to get distracted by editing and to neglect revising. One needs to do both. Check punctuation, spelling, grammar and change accordingly. If using IT one may alter fonts, sizes and so on.
Similarities and Differences Compare and Contrast structure: introduction, similarities (1-2 paras), differences (1-2 paras) and conclusion.
Block Compare and Contrast structure: an introduction; features of first item (1-2 paras; no mention of second item); second item referred to using the same features in the same order with comparisons made to the second item (1-2 paras); conclusion.

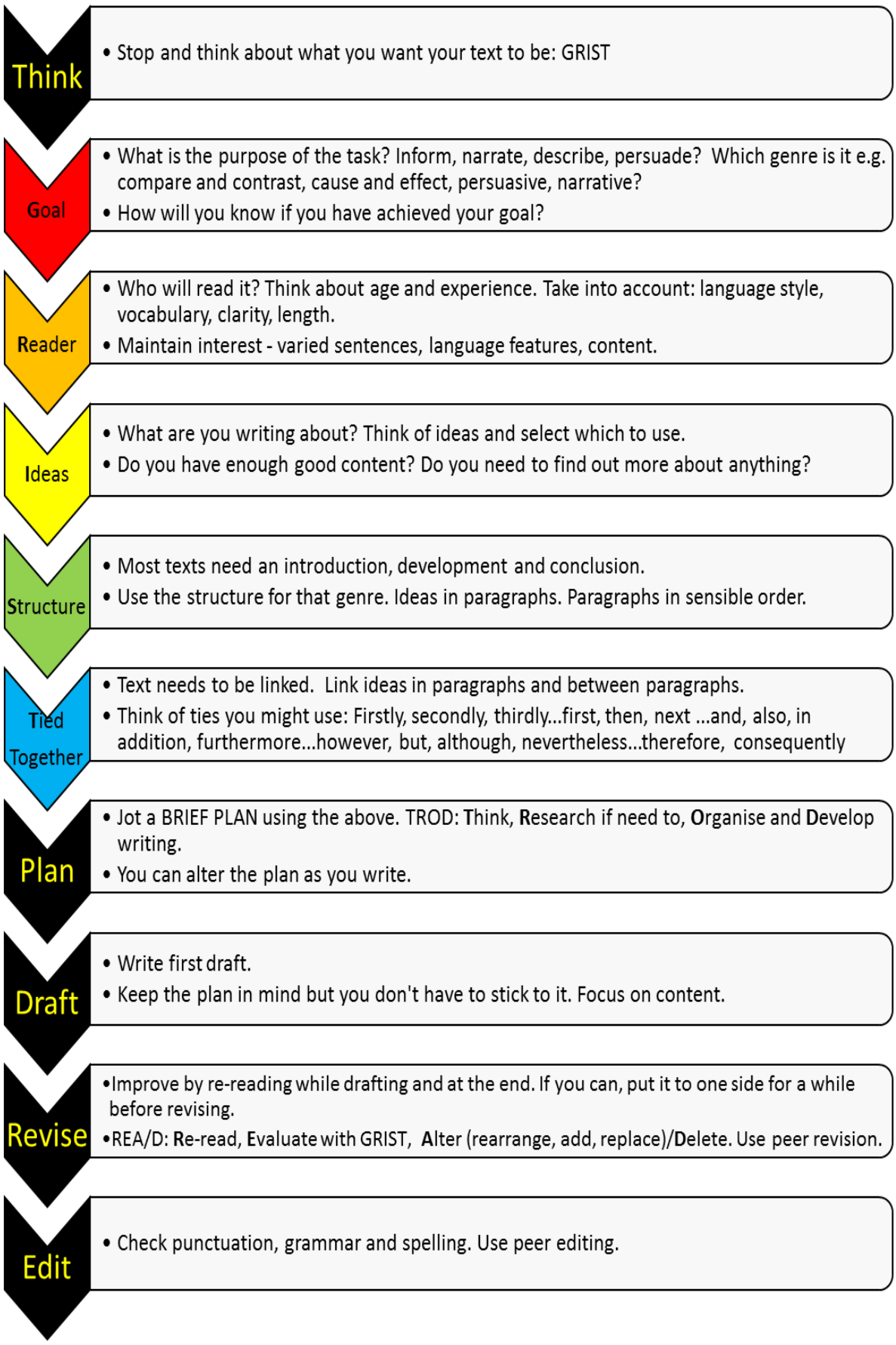
Appendix 8.2 High School Write Away Intervention Support Materials.

Write Away
S2 Support Materials



Kelton Green
Psychological Service

Write Away Process



Model Essay #1

A Comparison of Primary and Secondary School

I know that all schools have teachers. They teach you. Primary and secondary schools are both large buildings where students go apart from in the holidays. They are open for five days per week. Your name has to be called on the register in the morning and afternoon in both types of school. Secondary schools are bigger than primary schools. At primary school youre teacher teaches you most of the time but at secondary school you have a lot of teachers and you need to move between the classes and you have to go to school or you will get into trouble. You don't have to move between classes as much at primary school. But at secondary school you get to go to the chippy at dinner time or wander around the shops. I like doing that. And you get to make new friends. I think the government has decided there are some subjects you have to learn, like English and Maths. I don't like maths. But you get loads more homework at secondry. There are more different types of lessons at secondry. And on the last day of term at primary school you can sometimes bring toys in to play with. The secondry school is further away for most students so they have to get the bus.

Model Essay #2

A Comparison of Primary and Secondary School in Scotland

All children must receive at least 11 years of education in Scotland. This is because the government believe it is important for everyone to have the chance to be educated. The first seven years are at primary school and this is followed by at least four years at secondary school. There are many similarities between the two types of schools but there are also some significant differences.

Primary and secondary schools have some important similarities. The first of these is that they are both places where groups of children or young people are supported in their learning by teachers. This normally happens in classrooms. In addition, both are open five days per week for a fixed number of hours each day. Likewise, for both types of school, a record has to be kept of pupil attendance both in the morning and in the afternoon. This is called the "register". Furthermore, much of what is taught in both types of school is decided by the government. The Curriculum for Excellence was introduced in 2010. It suggests what experiences the students should have and what skills they need to develop. The government has also decided that some subjects must be studied. For example, all students have to study English until S4 at least.

However, there are also significant differences between primary and secondary schools. Perhaps the most obvious one is that secondary schools are often a great deal larger than primary schools. This is because they have many more students and have a wider range of activities available. In addition, primary school pupils generally stay in the same classroom with the same teacher much of the time whereas at secondary school pupils have many more teachers and have to move between classrooms for the different subjects. Having the same teacher can mean that pupils develop a stronger relationship with them. However, having a range of teachers can provide more opportunities for relationships and can help to encourage independence. In the same way, pupils at secondary school get to meet many more other students and so can find new friends with similar interests more easily. Furthermore, at primary school pupils have to stay on the school grounds all day while most secondary students are able to leave for lunch. Another important difference is homework: secondary students get much more of it than primary pupils.

In conclusion, primary and secondary schools are similar in that they are both places for learning. However, there are significant differences in size, organisation and the freedoms granted to students. It seems that many of these differences both reflect, and help to develop, the maturity and independence of the secondary students. It is clear that both types of schools have an important role in educating the adults of the future.

Modelling Aide Memoire

Essay writing is not easy! Modelling through thinking out loud enables students to hear the inaudible thinking process. Plan in advance roughly the kind of thing you will say but do not script it. Try to keep it authentic. Ensure that the key elements below are included.

Shorten the modelling and do it in smaller chunks if attentions drift. Alternatively, switch to a collaborative whole class think aloud and involve the students more actively, asking them to share what they might think as they write.

Key Elements

- **Respond to the essay prompt**
- **Demonstrate the strategies, linking them to success**
- **Refer to the Mnemonics**
- **Use goals**
- **Question yourself …then answer**
- **Instruct yourself**
- **Encourage yourself**
- **Manage your emotions**

See example extracts below for writing a compare and contrast essay. This is not a script to follow just a flavour of how to deliver it.

It would be far better to do an essay on a topic that is relevant to what is being covered in class.

PLANNING

- **Refer to GRIST mnemonic**
- **Jot ideas**
- **TROD: Think, Research, Organise, Develop**
- **Plan using structure: introduction, similarities, differences, conclusion**
- **Use graphic organiser or write those headings**
- **Something important or interesting for the introduction**

I know how to write essays… I use GRIST to start with. This will help me write a good essay. I'll write that down…now that means goal, reader, ideas, structure and tied together… (See Model Essay #2 first draft and revisions, edits.)

Now the question says compare and contrast Primary and Secondary school…so I am trying to tell the reader of ways in which they were alike and different…This will be put in the school library and so the reader could be any one from age 12 upwards. I must use language they will understand… What do I need to do next…? I need to work on a plan, that's my first goal. I remember, you use TROD: Think, Research, Organise and Develop. I'll think for a while and jot down what I know about primary and secondary school, especially things that are the same or different…..Well, they're both places where children are taught …secondaries are bigger and have bigger carparks… The Curriculum for Excellence… I wonder when it was introduced? I'll look that up on the internet and put it in (2010)… (and so on).

Do I have enough good ideas? Yes, that's enough. (Alternatively, you could model researching more information, for example from texts, the internet.

I now must organise my essay. I need to use "S" from GRIST – structure. Oh good I can remember the structure for a compare and contrast essay…. You have an intro, a paragraph or so on similarities and then a paragraph on differences before writing a conclusion. (Either write intro, sims, diffs conclusion on paper so can jot down a plan or use a graphic organiser).

I need to find something interesting or important to put into the introduction… I know, children have to go to school for 11 years by law so it is certainly important… I'll put that in the introduction…

*Next comes the similarities part. .. What things are the same? I want to use the best ideas. I'll jot them on my plan/organiser. They are both places you go to learn. What other things are there? (*open five days per week,

pupil attendance recorded, much of what is taught is decided by the government and so on). (Jot these on the plan). *I've thought of another one…*

My next goal is to plan the differences paragraph. Well, secondaries are a lot larger… I wonder why that is? (This is development)....*Oh, I know it's because they have more students…and they have more students so that they can provide a wider range of lessons and activities…. The other differences are (jot down: at secondary school pupils have more teachers and move between classrooms, pupils at secondary school meet more students and find new friends more easily, at primary pupils stay on the school grounds all day and so on). I wonder what this might mean for students? …Well, having the same teacher can mean that pupils develop a stronger relationship with them, however, having a range of teachers can provide more opportunities for relationships…*

I'm going to think about the conclusion after I've written the draft intro and development. I know I'll have to summarise what I've written and write what I've learnt. I'm not sure just yet about that last bit but writing it might help me to think more clearly so I'm not going to worry about that just now…Writing essays isn't easy but I'm doing all right…this plan is good and will make it a lot easier to start writing… I feel quite excited.

DRAFTING

- **Double spaced**
- **Focus on content**
- **Use the graphic organiser or those headings from a plan**
- **Continue to encourage and instruct yourself**
- **Topic sentences**
- **Tied together**

I need to start drafting now. My goal is a first draft. If I double space it will make it easier to change it. I'll worry about punctuation later… I've put the structure in my plan already: it has to have an introduction, a similarities paragraph, a differences paragraph and a conclusion. That seems a lot, I feel a bit nervous… I'll feel better when I've got something down on paper…

It needs a title: **A Comparison of Primary and Secondary School**

I'll do the intro first… I need to say why the question is important and what I will be writing about…Well, I can see that on my plan/graphic organiser I put children have to do 11 years at school at least. I can word that better…
All children must receive at least 11 years of education in Scotland. This is because the government believe it is important for everyone to have the chance to be educated… (Continue in this way for introduction)

I need to put what I'll be writing about…
There are many similarities between the two types of schools but there are also some significant differences.

Now, I need to do the similarities paragraph. I need a topic sentence. This tells the reader what the paragraph is about.
Primary and secondary schools have some important similarities.

I now give one of the similarities from my plan/organiser. Oh, I need to write in third person (he,she, it, they) for this type of essay…
They are both places where groups of children or young people are supported in their learning by teachers.

I've forgotten T from GRIST (tied together). *I also need to remember to link ideas… I could use first, second, third or maybe first, in addition,*

likewise, furthermore… I prefer the second list but it doesn't matter. I'll change the first one…
Primary and secondary schools have some important similarities. The first of these is that they are both places where groups of children or young people are supported in their learning by teachers.

Now I'm going to look at my plan again to see which similarities to put down and I'll remember to use ties…
In addition, both are open five days per week for a fixed number of hours each day with a set time for lunch. (Continue in this way for rest of similarities paragraph)

That's looking good. Next I need to do a paragraph on differences. I need to give a topic sentence.
There are also significant differences between primary and secondary schools.

On my plan (or graphic organiser) I have the other differences so I just need to put them in good English and remember to tie them together.
(Continue in similar fashion to the similarities paragraph).

That's great: I've now got a draft intro, similarities and differences. Now for some serious thinking, I need to do the conclusion. Well, the reader needs to know it is the conclusion…
In conclusion,

I now have to summarise briefly what I've already written. I should use different words. I'll read what I've already written again… I need to put something about them being similar and something about them being different. I'll just mention the important ones.
In conclusion, primary and secondary schools are similar in that they are both places for learning. However, there are significant differences in size, organisation and the freedoms granted to students.

Reading it through I realise that one reason they are different is that secondary schools try to make students more independent. Secondary students are also more mature than primary students and ready for this independence: when they leave they are practically adults.
It seems that many of these differences both reflect, and help to develop, the maturity and independence of the secondary students.

Wow! I've done the first draft. That feels better…

REVISING

- **REA/D= Re-read, Evaluate, Alter/Delete**
- **Evaluation is key to revision**
- **What are the best bits?**
- **GRIST helps. Have the goals been met? Is it suitable for the reader? Does it make sense? Do any of the ideas need changing? Have you used the correct structure? Are the paragraphs tied together? Are ideas in paragraphs tied together?**
- **Use the checklist**
- **Write on the draft to show alterations/deletions. You can use cut and stick (either on paper or IT).**

I've done a draft but I want it to be good so I'll need to revise it. I've put it aside for a day so hopefully I'll be able to spot mistakes more easily…I have to revise using REA/D but what does the mnemonic mean? Let me think…R… Re-read… I remember it now….: Re-read, Evaluate, Alter/Delete….So I need to read it all the way through again carefully and evaluate, that means decide how good it is…then change things or get rid of them.

Write on the draft what you will add or delete or re-arrange. You can re-arrange (move) paragraphs or a few sentences through cut and stick with paper or IT if you like. Alternatively use arrows. When you make a change re-read that section.

I'm going to alter the title first because this is about Scotland in particular…

A Comparison of Primary and Secondary School in Scotland

Ask the revision prompt questions to yourself.

What are the best bits? Well, I think I found some good similarities and differences.

Have the goals for the text been met? The goal was to compare and contrast. I think I've done that…but I will add in bits to improve my text as I go along.

*Will the text be suitable for the reader? Perhaps the language is too hard… I'll substitute some simpler words… instead of "**mandatory**" I'll use "**must be studied**"*

Does it make sense? I've missed out the word "primary"…

Do any of the ideas need changing? There are good ideas. But I will add in a thought I've just had, students find it easier to make friends at high school because there are more people with similar interests.
In the same way, pupils at secondary school get to meet many more other students and so can find new friends with similar interests more easily.

Is the writing well structured? - Yes I've done that but I think the similarities paragraph could be better. The schools being open five days a week and schools keeping a register are about the same type of thing and so should be closer together. I'll move that sentence up.
In addition, both are open five days per week for a fixed number of hours each day. Likewise, for both types of school, a record has to be kept of pupil attendance both in the morning and in the afternoon. This is called the "register".

I could do with a last line which clinched it better. I haven't really put what I've learnt…. I must not use "I" though…
It is clear that both types of schools have an important role in educating the adults of the future.

Are the paragraphs tied together? The differences paragraph isn't really linked on….I'll use "however".
However, there are also significant differences between primary and secondary schools.

Are the ideas in each paragraph linked? I need to add some more linking words and phrases to my text…like "furthermore"…
Furthermore, at primary school pupils have to stay on the school grounds all day while most secondary students are able to leave for lunch.

That sounds good!

You could now go through the checklist, ticking things off. A belt and braces approach. Not everything has to be ticked but most do! Explain that as their skills develop they will know these things without a checklist and the GRIST and REA/D mnemonics will be enough.

EDITING

- **Check punctuation**
- **Spelling**
- **Grammar**

So to edit I need to check spelling, grammar and punctuation. I purposely didn't focus too much on this before because it can mean I don't concentrate on the content of my writing. I'll read through again…

*I've spelt "secondary" wrong… and I'm not sure about "attendance"… (*You could look these up in a dictionary).

The first seven years are at primary school and this is followed by at least four years at secondary school.

Checking for capitals… proper nouns have capitals… so Curriculum for Excellence should have them….

The Curriculum for Excellence was…

I've also missed a capital at the start of a sentence.

It suggests what experiences the students should have…

I've also put "meets" but that does not make sense, it should be "meet".

In the same way, pupils at secondary school get to meet many more other students…

And so on. Point out that if you have time you will be writing up a neat copy. There may not be time for that in an exam. Even when producing the final version changes might still be made.

Celebrate finishing the task. *I'm really pleased with myself, this is a great essay. I kept calm and used the strategies. I achieved my goals. I'm a good writer.*

Model Essay #2 first draft and revisions, edits.

A Comparison of Primary and Secondary School in Scotland

All children must receive at least 11 years of education in Scotland. This is because the government believe it is important for everyone to have the chance to be educated. The first seven years are at primary school and this is followed by at least four years at secondary school. There are many similarities between the two types of schools but there are also some significant differences.

Primary and secondary schools have some important similarities. The first of these is that they are both places where groups of children or young people are supported in their learning by teachers. This normally happens in classrooms. In addition, both are open five days per week for a fixed number of hours each day. Likewise, for both types of school, a record has to be kept of pupil attendance both in the morning and in the afternoon. This is called the "register". Furthermore, much of what is taught in both types of school is decided by the government. The *C*urriculum for *E*xcellence was introduced in 2010. *I*t suggests what experiences the students should have and what skills they need to develop. The government has also decided that some subjects <u>are mandatory</u> must be studied. For example, all students have to study English until S4 at least. <u>Likewise, for both types of school, a record has to be kept of pupil attendence both in the morning and in the afternoon. This is called the "register".</u>

However, there are also significant differences between primary and secondary schools. Perhaps the most obvious one is that secondary schools are often a great deal larger than primary schools. This is because they have many more students and have a wider range of activities available. In addition, primary school pupils generally stay in the same classroom with the same teacher much of the time whereas at secondary school pupils have many more teachers and have to move between classrooms for the different subjects. Having the same teacher can mean that pupils develop a stronger relationship with them. However, having a range of teachers can provide more opportunities for relationships and can help to encourage independence. In the same way, pupils at secondary school get to meets many more other students and so can find new friends with similar interests more easily. Furthermore, at primary school pupils have to stay on the school grounds all day while most secondary students are able to leave for lunch. Another important difference is homework: secondary students get much more of it than primary pupils.

In conclusion, primary and secondary schools are similar in that they are both places for learning. However, there are significant differences in size, organisation and the freedoms granted to students. It seems that many of these differences both reflect, and help to develop, the maturity and independence of the secondary students. It is clear that both types of schools have an important role in educating the adults of the future.

Black = first draft
Green = revised version
Red and italic = edited version
Underlined = cut

Compare and Contrast Graphic Organiser

Jot words or phrases only

Goal (purpose) of your writing:

Reader:

Introduction

What you will be writing about:

Why this topic is important/interesting:

Similarities

Ideas Examples/details

Differences

Ideas Examples/details

Conclusion

Remember to summarise the above.

How similar/different are they?

What you've learned.

Compare and Contrast Essay

Think:

- What is the goal? Inform or persuade?
- Compare and contrast = note similarities and differences.
- Who will read it?
- Why is this question important?
- What do you know about each item?

Plan: TROD.

- Think Jot in words/phrases what you know about both items.
- Research Do you need to find out more?
- Organise Look for similarities (circle them) and differences. Is there something important or interesting in the similarities and differences? What do you notice? You might notice later. This will be an important idea in the essay.
- Develop text using the **structure** on the other side of this sheet.
- What are the most important ideas and less important ideas?
- Any examples, facts, numbers? *There are 17 secondary schools in the region.*

Draft:

- Write in third person (it/they). Do not use 'I': *Primary and Secondary school are similar in that …* (not: I think Primary and Secondary are similar because…).
- Need an introduction, similarities paragraph/s, differences paragraph/s and conclusion. **See other side of this sheet for the structure**.
- Keep the plan in mind but you don't have to stick to it. Focus on content.
- Double spacing will make revision easier later.
- Need to link ideas within paragraphs and between paragraphs using ties.
- Use language of comparison.

Revise:

- REA/D. Re-read, Evaluate*, Alter/Delete.
- *To evaluate use GRIST. Consider Goal, Reader, Ideas, Structure and if Tied together.
- Use Peer revision where possible.

Edit:

- Check punctuation, grammar (e.g. "It was" not "It were") and spelling.

Turn over the page

How to Structure Your Compare and Contrast Essay

Introduction (Paragraph)

- Get the reader's attention –say why this is important.
- Present the reader with the topic and purpose of the text.
- Perhaps list the areas to be considered.

Similarities (1-2 Paragraphs)

- Topic sentence: *Primary and Secondary Schools have some important similarities…*
- Describe the most important similarity.
- Describe the other similarities.
- Use ties to join ideas within the paragraph: *Firstly,…Secondly,… Thirdly,…Finally…* or *The first… In the same way,… In addition,… Furthermore,…*
- Support with evidence: examples, facts, ideas.
- Use ties to compare how alike the items are: *likewise, just as, similarly, equally, too, as well, also, both, is exactly/precisely/almost the same as…*

Differences (1-2 Paragraphs)

- Use ties to link paragraphs. *However, in contrast, on the other hand, although, on the contrary…*
- Topic sentence: *Primary is different from Secondary in a number of respects…*Describe the main difference.
- Describe the other differences, using ties to join ideas within the paragraph: *Firstly,…Secondly,… Thirdly,…Finally…* or *The first… In the same way,… In addition,… Furthermore,…*
- Support with evidence: examples, facts, ideas.
- Use ties to compare the items: *however, but, unlike, in contrast, on the other hand, yet, the reverse is true for…, a major difference between…;Secondary is a great deal/considerably/slightly larger (and so on) than Primary; Primary is completely/very/somewhat different from Secondary; Primary is not exactly the same as Secondary.*

Conclusion (Paragraph)

- Use ties to link paragraphs. *In conclusion,…To sum up,…*
- Summarise briefly.
- Evaluate how similar/different the two items are. Include what you have learned; Remember not to use "I".
- Give main idea again. Perhaps make a prediction or give a personal view.

Remember to Revise and Edit: that's what makes great writing!

Compare and Contrast Essay Checklist

Tick the box for each aspect that has been included. They do not all have to be included.

Does the writing...	**Please tick✓**
Make sense?	
Suit the reader?	
Achieve the goals for the piece of writing?	
Use "it" or "they" (third person) and not "I"? E.g. Primary and secondary are similar...(not: I think...	
Have an Introduction?	
Does the Introduction...	
Get the reader's attention?	
Say why this is important?	
Give the topic and purpose of the text?	
Have 1 or 2 Similarities paragraphs?	
Does the Similarities paragraph...	
Have a topic sentence? *E.g. Primary and Secondary Schools have some important similarities...*	
Describe the similarities?	
Use ties to join ideas within the paragraph? *E.g. Firstly,...Secondly,... Thirdly,...Finally... or The first... In the same way,... In addition,... Furthermore,...*	
Support the ideas with evidence? E.g. examples, facts, ideas.	
Use ties to compare how alike the items are? E.g. *likewise, just as, similarly, equally, too, as well, also, both, is exactly/precisely/almost the same as...*	
Have 1 or 2 Differences paragraphs?	
Does the Differences paragraph...	
Use ties to link paragraphs? E.g. *However, in contrast, on the other hand, although, on the contrary...*	
Have a topic sentence? *E.g. Primary is different from Secondary in a number of respects...*	
Describe the other differences, using ties to join ideas within the paragraph? E.g. *Firstly,...Secondly,... Thirdly,...Finally...* or *The first... In the same way,... In addition,... Furthermore,...*	
Support the ideas with evidence? E.g. examples, facts, ideas.	
Use ties to compare the items? E.g. *however, but, unlike, in contrast, on the other hand, yet, a major difference between...;Secondary is a great deal/considerably/slightly larger (and so on) than Primary; Primary is completely/very/somewhat different from Secondary;*	
Have a Conclusion paragraph?	
Does the Conclusion...	
Use ties to link paragraphs? E.g. *In conclusion,...To sum up,...*	
Summarise briefly what has been written?	
Judge how similar and/or different the two items are?	
Include what has been learnt? Remembering not to use "I".	
Give main idea again?	
Perhaps make a prediction or give a personal view?	
What are the best bits?	

Revise to Improve Your Writing

Tip: Leaving some time after drafting can help when revising.

Use READ = Reread, Evaluate, Alter/Delete.

- Re-read your writing on your own first.
- What are the best bits?
- Have the goals for the text been met?
- Will the text be suitable for the reader? Does it make sense?
- Do any of the ideas need changing?
- Is the writing well structured? - Introduction, development, conclusion?
- Are the paragraphs tied together? Are the ideas in each paragraph linked?
- Write on the draft what you will add or delete or *re-arrange*. You can re-arrange (move) paragraphs or a few sentences through cut and stick if you like. Alternatively use arrows.

Editing (corrections)

- Check spelling and punctuation (capital letters, full stops and so on).
- Check grammar (e.g. "It went" rather than "It wented") and number agreement (e.g. "four houses" rather than "four house"; "It was" rather than "It were").
- Use peer editing in the same way as peer revision.

Peer revision

This is a useful way to improve your writing and writing skills. It means working with someone in your class. Do this after revising your work on your own.

- Agree whose writing will be revised first.
- Revise using REA/D above.
- Remember to start with compliments. Be polite.
- Together, think about how you might change the work. Make suggestions politely rather than just saying such and such is wrong. The writer has the final say for their writing.
- The writer marks the revisions on their draft. Using a different colour helps. Use a cut and stick approach to support this where appropriate.
- You could read it aloud as a final check.
- Swap over and revise the other piece of writing.
- Edit each other's writing in the same way.

Appendix 8.3 High School Teacher Instructions for Administering Written Tasks Pre and Post-test.

First Writing Assessment Task Teacher Instructions

Prior to the task all the students in S2 need to be allocated to Task A or Task B. The first student on the list has Task A first, the next has Task B and so on. This list is called the Task List.

7. The task is done under exam conditions, so the students cannot talk to their friends and should not copy from others.

8. Tell the students when the task period will end; write this on the board. If they finish before this time they can read quietly.

9. Distribute **one sheet of A4 paper** for each student. This is not for their final copy but can be used for making notes or any other purpose they feel might help their writing. They must write their name on it even if they do not use it.

10. Distribute the **writing tasks** using the Task List to determine which students receive task A and which receive task B. Tell the students they will not all get the same tasks. Half of the students have to do task A and half have to do task B first. *When they repeat this exercise later they will do the task they have not yet done.*

11. Tell the students to start the task. If they finish early they can read or engage in some other suitable, silent activity.

12. When the time is up the students must ensure their names are on their tasks and A4 sheets. These are then collected in.

Final Writing Assessment Task Teacher Instructions

*Note that for the second task the rating questions are completed **after the assessment**.*

1. The task is done under exam conditions, so the students cannot talk to their friends and should not copy from others.
2. Tell the students when the task period will end; write this on the board. Make this time five minutes or so from the end of the session. (Time will be needed for them to complete their Final Student Questionnaire). If they finish before this time they can read quietly.
3. Distribute **one sheet of A4 paper** for each student. This is not for their final copy but can be used for making notes or any other purpose they feel might help their writing. **They must write their name on it even if they do not use it.**
4. Distribute the **writing tasks** using the Task List to determine which students receive which task. Those listed as having task A for their first task will be given task B for their second task and vice versa. Tell the students they will not all get the same tasks.
5. Tell the students to start the task.
6. When the time ends ask the students to stop.
7. Distribute the **Student Final Questionnaire**. Read the questions out and ask those students who are participating in the research to put their ratings down, should they wish.
8. Remind students to ensure their names are on their tasks, A4 sheets and Final Student Questionnaires, if completed. These are then collected in.

Appendix 8.4 High School Teacher Participant Information Sheet

Secondary Teacher Participant Information Sheet

Research is being conducted into the teaching of writing in schools in the Local Authority in connection with Dundee University and this will help to inform future In-Service training and research.

Background Information

According to the European Union High Level Group of Experts on Literacy, writing is becoming ever more essential for social, political and workplace participation (European Commission, 2012).

There are a range of evidence-based writing interventions which have been combined in the writing interventions in this research. They include: process goals (Schunk et al., 1991, 1993); product goals (Graham et al., 2007; Rogers et al., 2008); text structure instruction (Graham et al., 2012; Fidalgo et al., 2015); the study of good models (Corden, 2007; Knudson, 1989); the teaching of knowledge of genre features (Hoogeveen, 2012); writing strategy instruction alongside self-regulation (Torrance et al., 2007; De La Paz, 1999; Fidalgo et al., 2008, Graham et al., 2007; Rogers et al., 2008); adult feedback (Graham et al.,2012, Hattie, 2009); collaboration (Graham et al., 2007); provision of authentic purposes for informational writing (Purcell-Gates et al., 2007); the opportunity to evaluate their own writing (MacArthur in Graham et al., 2013); peer revision (Boscolo et al., 2004); the support of memorisation through mnemonics (Harris et al., 2009).

Aims and Objectives of the Study

The research questions are:

Does the implementation of evidence-based teaching of writing practices improve writing quality at S2 in a secondary school in Southern Scotland?

How effective are different combinations of English and Social Studies subject teachers at delivering evidence-based writing interventions in S2 at a secondary school in Southern Scotland?

Further to this, the study will investigate:

- The efficacy of the different versions of the intervention at improving writing quality.
- Social Studies teachers' and English teachers' perceptions of the efficacy of the interventions at improving writing quality.
- The effects of the interventions on the teachers' reported teaching writing practices.
- The effects of the interventions on the perceived self-efficacy at teaching writing and enjoyment of teaching writing of Social Studies teachers and English teachers in S2.
- The effects of the intervention on S2 students' perceptions of self-efficacy at writing and enjoyment of writing.
- S2 Students' reported enjoyment of the interventions.

Method

There will be three different interventions, all based on the same materials. Informed, written consent will be sought from the teachers in the study for the inclusion of their data in the

study and possible publication. The proposed design (see Table 1) will be amended if any teacher/s wish/es not to be included. A quasi- experimental design is to be used and so which teachers are to be involved with which intervention or control will be determined by lot. The interventions will all take six weeks. Training will be provided.

Which classes of S2 students are included in the intervention will be based on which teachers participate. Students will be given the opportunity to opt-out of the intervention activities if they do not wish to participate and will be provided with alternative activities closely related to the tasks. The interventions are little different from normal curricular activities. Furthermore, informed, written consent will be sought from the students for the inclusion of their data in the study and possible publication. The student data will be the written assessment tasks and their questionnaire responses.

Table 1 Proposed Design

	Taught by	**Number of Essays**
Intervention 1	English Teachers only	3
Intervention 2	Social Studies Teachers only	2
Intervention 3	English Teachers and Social Studies Teachers	3
Control	English Teachers and Social Studies Teachers	Business as usual

Measures

The intervention teachers will be given a questionnaire pre and post the intervention period. Non- intervention teachers of S2 will also be given the final questionnaire. The teacher questionnaires include 9 point ratio scaling questions and an open question. Intervention teachers will be invited to volunteer to attend focus groups at each school. The data will be kept anonymous.

A written assessment task will be given to all the S2 students pre and post the intervention period together with a brief questionnaire including 9 point ratio scaling questions and an open question for the final questionnaire. Informed, written consent will be sought from all the students for the inclusion of their data in the study and possible publication.

The focus group data will be collated and analysed thematically. The ratio scaling questions in the questionnaires will be reported using descriptive statistics. The open questions to the questionnaires will be collated and analysed thematically. Data will be stored securely, i.e. it will be password protected. It will be stored on a password protected memory stick and a password protected hard drive. Ten years after the end of the research the raw data will be destroyed.

After the study

Following the study, there will be an opportunity to ask questions at the voluntary focus groups. An executive summary will be sent to teachers and senior staff at the schools. This summary will be shared in the Local Authority and beyond. It is hoped that a research article may result from the study. A simplified version of the executive summary will be made available for the schools to share with their S2 students. If the intervention is effective it will be made available more widely.

If you have any questions, please contact me using the details below.

Kelton Green CPsychol AFBPsS, Educational Psychologist
Psychological Service address
Tel XXXXXXXXXX work email

Appendix 8.5 High School Write Away Programme Training Power Points

WRITE AWAY

Kelton Green Psychological Service

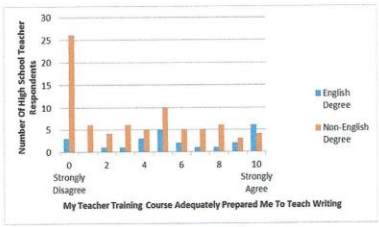
Aims

- To consider the reasons for the Write Away programme
- To introduce the Write Away programme
- To provide an opportunity to explore the Write Away materials
- To outline research requirements

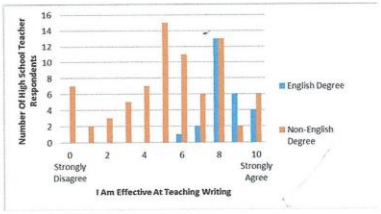
Why Focus on Writing?

- Literacy ≠ reading and spelling only
- Scottish Survey of Literacy and Numeracy. Pupils performing well, very well or beyond the level in 2014:
  - 64 per cent in P4
  - 68 per cent in P7
  - 55 per cent in S2
- Essential life skill; becoming more important in digital age (European Commission, 2012)
- Writing supports learning; used to measure learning
- "People say they can't draw when they mean they can't see, and that they can't write when they mean they can't think." Aaron Haspel, 2012

Teacher Writing Survey 2015



Perceived Effectiveness



Standards

- A high school teacher who had been teaching since 1981 felt they had witnessed a "real fall in standards" in that time. It was noted that inadequate writing standards were having an impact on other curriculum areas, such as Modern Foreign Languages, Humanities (History/Geography/Modern Studies) and Administration.
- One high school teacher felt that standards were sufficient until students faced the challenges of senior school when it could take six months to coach the students in essay writing.
- Another high school teacher observed some consequences of insufficient skills in later high school, "Pupils get to upper secondary and do not have the tools to redraft their work; this causes frustration and makes it very difficult for them to reflect on and edit their work".

More Functional Writing?

- One primary teacher commented, "I feel strongly that functional writing is the most relevant or purposeful as a life skill, and should receive the strongest focus as creative/imaginative writing is rarely if ever used in adulthood…"
- A high school teacher felt the same way, describing functional writing as, "essays etc."

The Importance of Writing Well

In pairs, or whatever grouping you prefer, jot on a few post-its how important you believe it is for students to be able to write well. You have five minutes.

What Does Not Improve Writing?

- "Writing is a top-down process, and its "basic skills" are not grammatical rules, but rhetorical strategies pertaining to the different stages of the writing process: strategies for invention, research, arrangement, drafting, discussing, and revising. Those arguing that grammar instruction will improve students' writing need to recognize that, at most, the rules of grammar comprise one small piece of a complex process that begins with and supports the students' intention to communicate." Prof. Sean Zwagerman (2015)

What Improves Writing?

- Plan, draft, revise edit strategy instruction alongside self-regulation (Fidalgo et al., 2008; Harris, Lane, Graham et al., 2012; Graham et al., 2012).
- Process/Product Goals (Graham et al., 2012)
- Assessing Writing With Feedback From Adults (Graham et al., 2012)
- Peer Assistance With Revision (Graham et al., 2007)
- Individual laptop and internet access at home and school for a year plus teacher training (Lowther et al., 2003)
- Text structure instruction (Graham et al., 2012)
- Teach knowledge of genre features (Hoogeveen, 2012)
- Provide evaluation criteria MacArthur, 2013)
- Teacher modelling (Schunk et al., 1991, 1993)
- Extra time for writing (Graham et al., 2012)

The Write Away Process

Compare and Contrast

All Social Studies curricula at BGE include compare and contrast activities.

In pairs, compare model essays #1 and #2. Then discuss as a larger group of six or so, considering the GRIST mnemonic.

Consider model essay #2 in terms of "How to structure your compare and contrast essay"

WRITE AWAY PART TWO

Kelton Green
Psychological Service

Consent

- Students have participation info sheet and give written consent
- Teachers need to give consent too. The forms are here.

The Write Away Process

Planning

Expert writers tend to plan.

TROD:

- **Think** without writing anything immediately. Then jot down ideas as words/phrases, might be quotes, ***decide what else you need to know.***
- **Research** what you need to find out and then return to planning.
- **Organise** according to the relevant structure.
- **Develop** the text, amending the plan as need be.

The goal is good writing not good planning sheets.

Important point: writing supports learning, as one writes one's views/understandings are likely to change and therefore the product.

Modelling

Modelling through thinking out loud ("think alouds") enables students to hear the inaudible thinking process.

Try to keep it authentic. Ensure that the key elements below are included. Refer to the writing strategies you are using but also how you are regulating what you do.

Key Elements

- Respond to the essay prompt
- Demonstrate the strategies, linking them to success
- Refer to the Mnemonics
- Use goals
- Question yourself …then answer
- Instruct yourself
- Encourage yourself

Shorten the think aloud and do it in smaller chunks if attentions drift. Alternatively, switch to a collaborative whole class think aloud and involve the students more actively, asking them to share what they might think as they write.

Think Aloud: Planning

- Demonstration of planning. Need consistency.
- What did you notice about the demonstration of the planning stage?
- **GRIST, TROD, INTRO-SIMILARITIES- DIFFERENCES-CONCLUSION (IDC)**
- **Something important/interesting in introduction.**
- **Graphic organisers or graphic organiser headings have been shown to support the development of planning skills.**

Flaubert: "Prose is like hair…it shines with brushing."

- Charles Dickens.
- Revision is associated with quality. All good writers do it.
- "Never send a letter or a memo on the day you write it. Read it aloud the next morning—and then edit it" David Ogilvy, 1982. A time-lag is helpful.
- Revise vs Edit.
- REA/D Re-Read, Evaluate, Alter/Delete (add, remove, rearrange, replace). Focus on content and structure rather than spelling.
- "If it is something important, get a colleague to improve it." Ogilvy, 1982. Peer revision improves quality. Who doesn't do it as an adult?

Peer Revision and Editing

- Use revision sheet.
- REA/D and GRIST are the key mnemonics.
- Although planning is something expert writers do, writing quality is strongly associated with revision.

Feedback

- During the production of essays adults give oral feedback in classes.
- After each essay, students are asked what they think of their essays.
- Did they achieve their goal?
- What do they think of their writing quality?
- How helpful are the mnemonics?
- What did they think of peer revision and peer editing?
- Anything they would do differently next time?
- Final copies shared with class in a folder and perhaps with the library.

My Very Easy Method Just Speeds Up Naming Planets…

Mnemonics and Acronyms help us remember things, as does repetition. Refer to them. Remind of them. Test them.(Testing improves recall; unfortunately!).

GRIST

IDC

TROD

REA/D

TPDRE –Think Plan Draft Revise Edit

This process can be used for other writing genres.

Research Requirements

- Pre and Post teacher questionnaires.
- Students given the option to not do the intervention. They will still write essays but will not be given the supports and can get on with that while the rest are teaching.
- Signed student and teacher consent forms.
- Keep a simple teaching log. Comments and dates when elements were done.
- Pre and post writing assessment samples. You do not have to mark them. You can ask that they do the writing assessment regardless but you must keep it if they do not want to participate in the research.
- After the post writing assessment set aside 5 minutes to talk with the students about the intervention; what they thought of it, what questions they might have.
- You will have the opportunity to volunteer for a focus group to review the intervention.
- An executive summary will be produced. A simplified version will be given to the school to share with students.

Delivery

	Taught by	Number of Essays
Intervention 1	English Teacher only	2
Intervention 2	Social Studies Teacher only	2
Intervention 3	English Teacher and Social Studies Teacher	2
Control	English Teachers and Social Studies Teachers	Business as usual

The Programmes

- Have a look at your programme and **teaching log**.
- Date when you do the elements. This will help with timings in future. Positive and negative comments are welcome, along with suggestions.

Any Questions?

Thank you

If you have any further queries discuss them in the first instance with the PT English.

Alternatively, contact Kelton Green on work email or service tel.

Please complete the simple feedback slips about the training.

Appendix 8.6 High School Student Participation Information Sheet

Secondary Student *Write Away* Participant Information Sheet

Introduction

I am researching the teaching of writing with Dundee University. This research will help us know how best to teach essay writing and this will be used to help other teachers and inform further research. I have developed a teaching programme called "Write Away". It has three slightly different versions.

I want to know whether the Write Away programmes helps to improve S2 students' writing. I also want to know whether differences in the mixtures of teachers teaching the programmes make any difference. I also want to know if students enjoy the programmes and if it affects how good they believe they are at writing.

What will happen?

The *Write Away* programmes will last for six weeks. There will be three different *Write Away* programmes, all based on the same materials. This means there will be four different groups (see table 1). One group will have their usual teaching and not follow a *Write Away* programme. The other three groups will be taught the programme by an English teacher or a Social Studies teacher or a combination of the two in their regular classes. As part of these programmes students will write two or three essays. There will be no extra lessons. The programmes are little different from normal school activities.

Table 1 Design

	Taught *Write Away* by:	**Number of Essays**
Group 1	English Teachers	3
Group 2	Social Studies Teachers	2
Group 3	English Teachers and Social Studies Teachers	3
Group 4	Do not follow *Write Away* programme. Have usual teaching.	

Which S2 students are included in which groups will be based on which teachers they have. A writing task will be given to all the S2 students before and after the *Write Away* programme. This will take an hour or so and will happen during English lessons. There will also be simple questionnaire which will be done in class before and after the intervention. These will take no more than five minutes each. The information from the tasks and questions will be stored safely and destroyed ten years after the end of the research.

Who is involved?

Students will be given the chance to say they do not want to be part of the project. If they do not want to be part of it they will be given different activities to do. They will still be doing writing in school. Students will be asked to sign that they agree to be a part of the project and to let their scores and written comments be included in the research and possibly published.

After the study

There will be an opportunity to ask questions of your teacher/s at the end of the study. A summary will be sent to the school. This summary will be shared in the Local Authority and beyond. A concise version of the summary will be given to the school to share with the S2 students. They will be able to take this home. If *Write Away* is shown to help improve students' writing, other teachers will be able to have the training and those students who did not follow *Write Away* will be able to follow it in S3.

If you have any questions, please contact me using the details below.

Kelton Green CPsychol AFBPsS, Educational Psychologist, Psychological Service Address, Tel: XXXXXXXXXXX work email

Appendix 8.7 High School Student Consent Form

Student Consent Form

Research is being conducted into the teaching of writing at S2 of secondary school in the Local Authority in connection with Dundee University. The purpose of the research is to investigate ways of improving student writing through the use of different teaching approaches. This will help to inform future training for teachers and further research into the teaching of writing.

No individuals will be identified or traced from this. Your name is required at this point of data collection but it will be replaced by a number. Your anonymous data will then be stored securely until it is destroyed ten years after the completion of the research.

If you agree to the two writing tests and your responses to questions about writing to be included in data for the research please print and sign your name, along with the date below:

I agree to my writing tests and writing questions responses being used for research purposes and publication.

NAME: _____

SIGNATURE: _____

DATE: _____